Technology that saves lives

# VM Series Life Safety Control System


S3000

S3000

7165-1657: 309

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## Description

VM Series represents the latest generation of life safety control panels for mid to large sized applications. With large multi-message displays, intuitive interfaces, and stylish contoured cabinets — these systems capture the imagination, and catch the eye. But behind the LCD display is where they really shine.

New TCP/IP-enabled microprocessors and chipsets take full advantage of the latest advances in computing technology, leading to smarter, faster, higher-capacity processing and more efficient designs. VM Series's patented Voltage Boost™ technology, for example, delivers constant voltage on NAC and AUX circuits – even at low battery power – resulting in lighter cable requirements and/or longer runs. That saves time and money.

High performance processing also leads to powerful networking features and versatile digital audio functionality. In fact, VM Series can handle jobs that range from a single stand-alone control panel, to a sophisticated network comprising as many as 24 control panels processing data from up to 24,000 devices.

High quality voice evacuation also delivers system design flexibility with scalable implementation from simple Place-of-Assembly capability right up to multi-channel operation for highrise and campus applications. VM Series features three channels of integrated digital audio. Its optional paging control center includes a high quality paging microphone to which can be added a firefighters' telephone.

VM Series makes all this new technology readily accessible with easy installation and maintenance. Electronic addressing means devices virtually install themselves, while intuitive installation and detailed diagnostic tools offer a clear and rapid path to flawless system operation.

## Standard Features

- One Class A or Class B intelligent device loop standard, optional loops brings control panel capacity to 1000 devices
- 24-line by 40-character backlit LCD capable of displaying eight simultaneous events
- Optional voice evacuation and firefighter's telephone
- Part of an end-to-end audio solution suitable for low frequency signaling in sleeping areas
- Optional network interface slots are located on the back of a swingable mounting chassis
- Electronic addressing with automatic device mapping
- Optional Ethernet port for diagnostics, programming
- Supports strobe synchronization
- Supports up to 30 R-Series remote annunciators with either Class A or Class B wiring
- Networkable up to twenty four VM control panels monitoring 24,000 intelligent points
- Patented Voltage Boost™ technology delivers constant voltage on NAC and AUX circuits — even at low battery power.
- 10 Amp UL listed power supply with universal 94 to 264 Vac input voltage
- Integrated Carbon Monoxide gas sensing with V-PCOS detectors including distinct audible signaling
- Four on-board Notification Appliance Circuits
- Room for three optional front panel LED/Switch modules
- Optional Ethernet interface
- UL2572; UL864 UUKL; UL 864 Listed for releasing applications using GSA-REL
- Optional earthquake hardening: seismic Importance Factor 1.5

# Application

Application flexibility is where VM's leading edge computing power is put to best use. This generation of control panels is equally at home as the center of a simple single-building standalone system as it is when part of a sophisticated life safety network serving thousands of points across multiple buildings. Optional voice evacuation bridges the gap left by other mid-range systems, and makes these panels a cost-effective solution for most applications.

### Efficient, cost-effective networking

Networking is among VM Series's strong suits. A simple VM Series network can comprise up to eight control panels – enough to serve the needs of most campuses and larger buildings. Highly efficient RS485 connectivity, plus fiber-optic communications deliver faster response times and more sophisticated diagnostic capabilities, while cost-effective remote annunciation solutions keep basic monitoring and control always within reach.

### Audio that speaks for itself

VM Series features three channels of integrated digital audio with up to two minutes of on-board programmable message storage. An optional paging control center includes a high quality paging microphone to which can be added a firefighters' telephone. Auxiliary inputs are available for mass notification operations and connection to external systems.

An optional paging microphone provides local, as well as remote, audio functions.

### Versatility built right in

The VM control panel has room for three fully-programmable front panel switch/LED strips. Each strip includes 12 switches with two associated LEDs (one quad-color, and one yellow), and a custom label area. LED color designations are assigned by the installer.

### Perfect for retrofits

VM Series is particularly well-suited to retrofit applications. All connections are made over standard wiring – no shielded cable required. This means that in most situations existing wiring can be used to upgrade a legacy control panel to VM Series technology without the expense or disruption of rewiring the entire building.

### Clear-cut remote annunciation

Up to 30 R-Series LCD, LED annunciators and driver interface cards may be configured for each control panel on the VM Series network. Compatible annunciators include a range of LED and LCD models that provide zone or point annunciation, as well as common control capabilities. VM Series also supports graphic annunciation with optional graphic snnunciator interface modules. Each interface provides common control, indicators, and 32 LEDS. Expansion units provide 48 led outputs.

Up to 30 R-Series annunciators may be configured for each panel on the VM Series network.

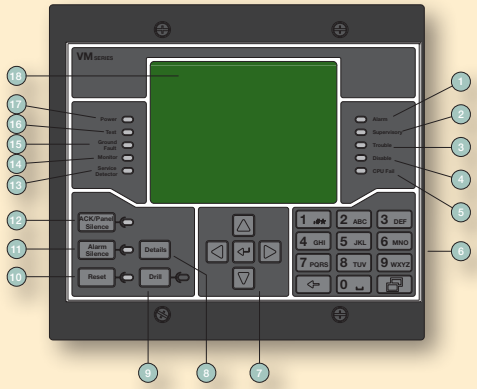
### Power that goes the distance

Kidde's patented Voltage Boost™ technology delivers constant 22.5 Vdc on NAC and AUX circuits – even at low battery power. This means lighter gauge cable can be used for equivalent distances compared with conventional power supplies, or longer wire runs on the same gauge cable. Either way, this breakthrough technology saves time and equipment costs, making VM Series not only a high-performance solution — but a cost-effective one as well.

### Scalable IP and Cellular Communications

Several popular third-party IP/Cellular communicators have been tested with the VM control panel and are compatibility listed to UL864. The IP/Cellular communicators meet NFPA72 2013 edition requirements for sole or secondary transmission paths. Using IP/Cellular communicators can reduce the cost of ownership by eliminating POTS lines. Please see the VM control panel compatibility documentation part number 3101804-EN for a full list of compatible communicators.

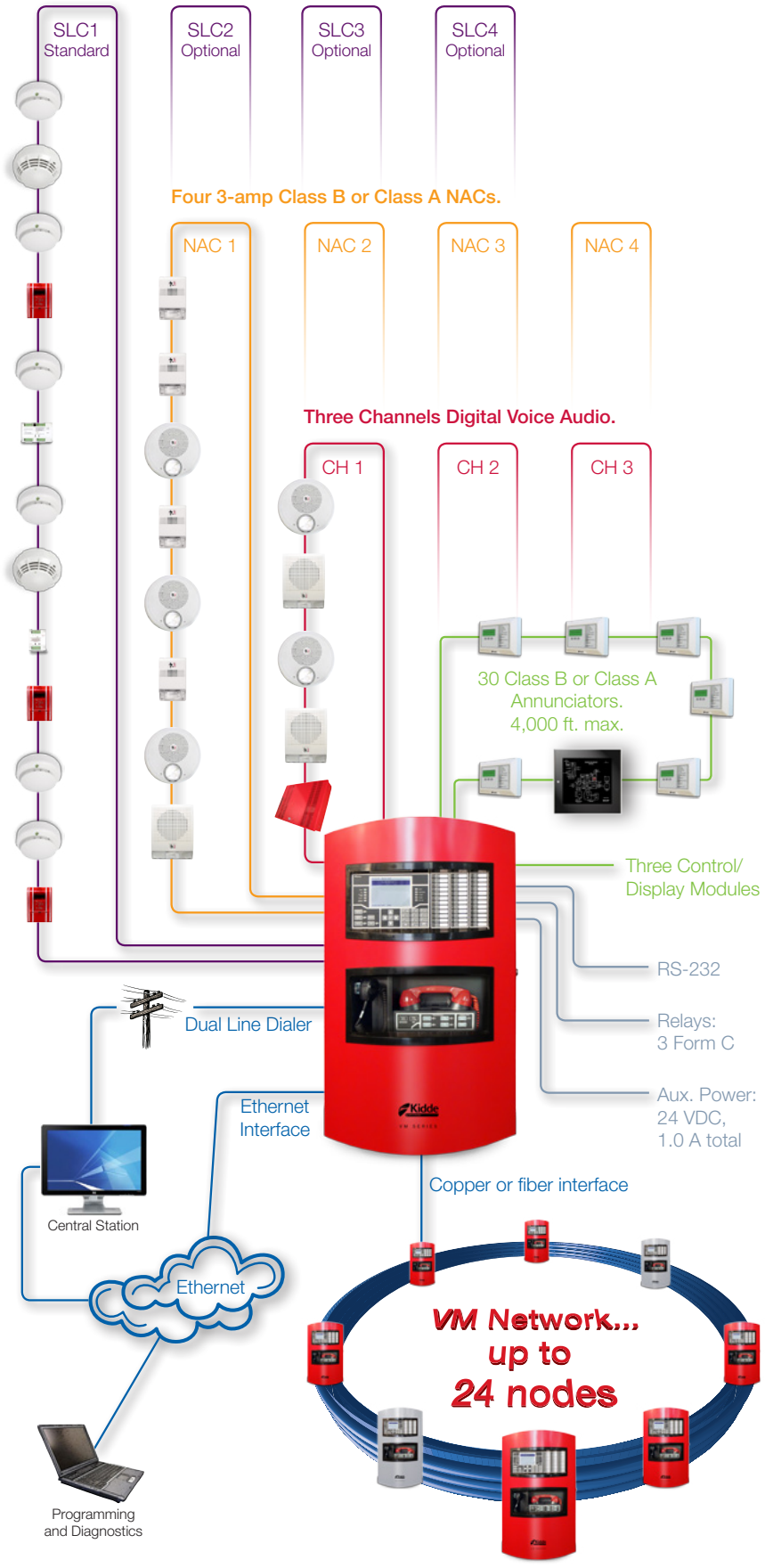
# Operation




| | | |
|---|---|---|
| **1** | Alarm LED | Flashing indicates new alarm events.<br>On indicates all alarm events have been acknowledged. |
| **2** | Supervisory LED | Flashing indicates new supervisory events<br>On indicates all supervisory events have been acknowledged. |
| **3** | Trouble LED | Flashing indicates new trouble events.<br>Steady indicates all trouble events have been acknowledged. |
| **4** | Disable LED | Indicates a system component has been disabled. |
| **5** | CPU Fail LED | Indicates a CPU processor failure. |
| **6** | Keypad | Includes alphanumeric keys, backspace key, and menu key. |
| **7** | Cursor controls | Includes up, down, left, and right arrow keys, and Enter key. |
| **8** | Details button | Displays additional information on the selected event. |
| **9** | Drill button | Activates audible alarm signals and, if configured, visible alarm signals.<br>The LED indicates that Drill operation is active. |
| **10** | Reset button/ LED | Resets the fire alarm system.<br>The LED indicates the panel is resetting. |
| **11** | Alarm Silence button/LED | Silences alarm signals.<br>The LED indicates that Alarm Silence is active. |
| **12** | ACK/Panel Silence button/LED | Silences the panel buzzer and acknowledges all new events.<br>The LED indicates that Panel Silence is active. |
| **13** | Service Detector LED | Indicates a detector needs servicing |
| **14** | Monitor LED | Flashing indicates new monitor events.<br>On: Indicates all monitor events have been acknowledged. |
| **15** | Ground Fault LED | Indicates a system ground fault. |
| **16** | Test LED | Indicates system components are being tested. |
| **17** | Power LED | On indicates the panel is using primary power.<br>Off iIndicates the panel (or another panel on the network) is using battery power. |
| **18** | LCD | Displays system status, event messages, reports, and operator menus. |

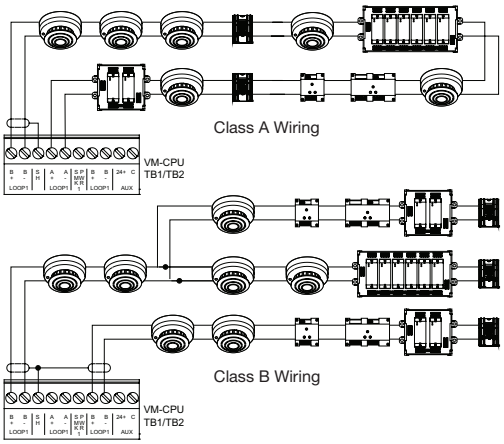
# System Layout

**Up to Four Intelligent Analog Loops.**

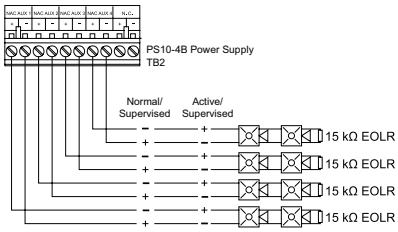



# Wiring

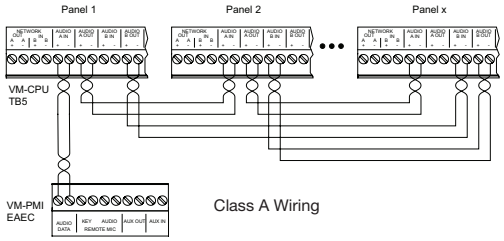
## Signaling Line Circuit



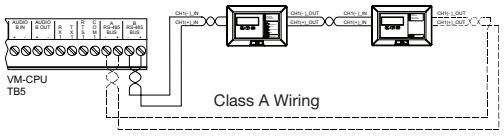

## Notification Appliance Circuits




## Digital Audio Riser

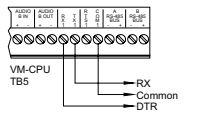



## RS-485 bus wiring for remote annunciators

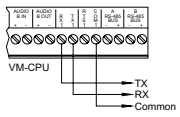



## RS-232 wiring

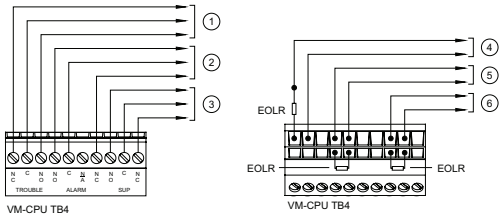
Supervised Printer, RS-232 wiring




Unsupervised Printer, RS-232 wiring

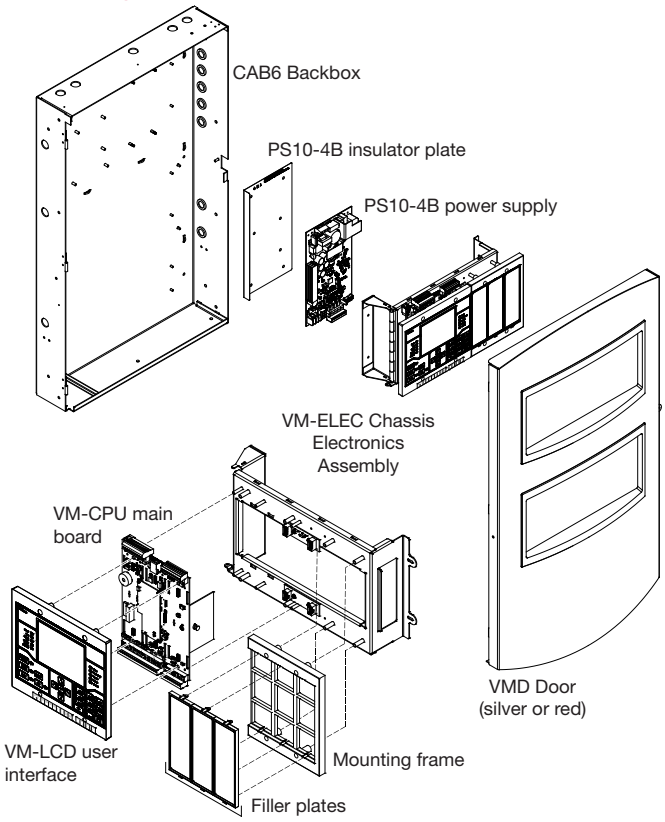



## Common relays



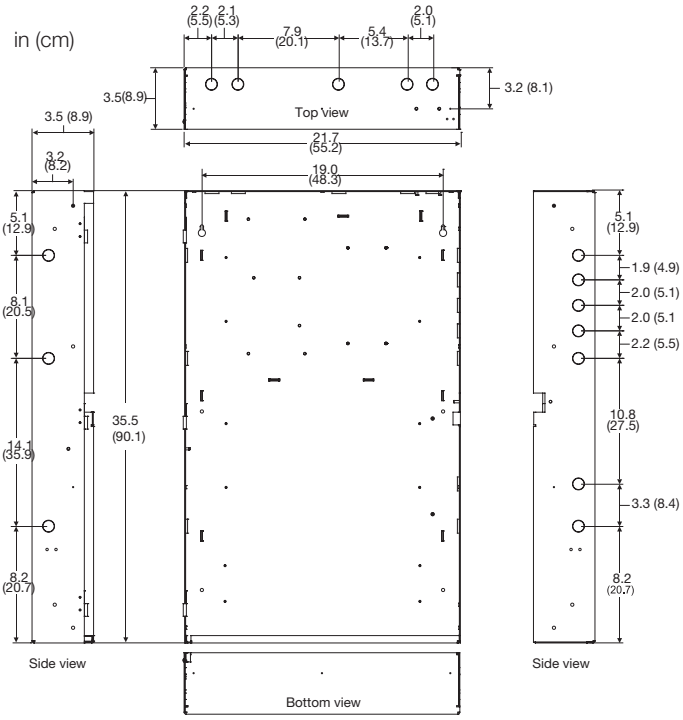

1. Trouble circuit
2. Alarm circuit
3. Supervisory circuit
4. External trouble input circuit
5. External alarm input circuit
6. External supervisory input circuit

## Assembly




## Dimensions

The backbox is designed for semiflush or surface mounting. Conduit and nail knockouts, keyhole style mounting holes, and wide wiring troughs facilitate efficiency during installation.




**Note:** Add 0.25 in (0.64 cm). to height and width dimensions to allow for knockouts when framing in the backbox for semiflush mounting.

## Specifications, standard equipment

**Main Board** The VM-1 consists of the following components, CPU main board, LCD display, one SLC card, power supply, back box and door. The CPU main board processes all information from modules installed in the same cabinet and from other control panels on the VM network.

| | |
|---|---|
| Voltage | 24 VDC |
| Current | |
| Standby | 381mA |
| Alarm | 481mA |
| Common relays | |
| Quantity | 3 (Alarm, Supervisory, Trouble) |
| Type | Form C |
| Rating | 30 VDC at 1 A |
| RS-232 circuit | |
| Baud rate | 1200 to 38400 |
| Length | 50 ft. (6 m) max. |
| Resistance | 13 Ω max. |
| Capacitance | 0.7 µF max. |
| Remote annunciator circuit | |
| Length | 4,000 ft. (1,219 m) max. |
| Resistance | 90 Ω max. |
| Capacitance | 0.3µF max. |
| Compatible devices | RLCD-C, RLCD, RLED-C, GCI |
| Wire size | 18 to 12 AWG (0.75 to 2.5 mm²) |
| Ground fault impedance | 10 kΩ |

**PS10-4B Power Supply Board** provides the required power and related supervision functions for the control panel as well as filtered, regulated power. It also provides 24 VDC for operating ancillary equipment.

| | |
|---|---|
| Voltage | 93 to 264 VAC, 50/60 Hz |
| Current | Power supply current is included in the total current shown under VM1 above. |
| Current at 120 V, 50/60 Hz | 3 A max. |
| Current at 240 V, 50/60 Hz | 1.5 A max. |
| Power output | |
| UL | 24 VDC at 10 A [Note 1] |
| ULC | 24 VDC at 9.0 A [Note 1] |
| Brownout level | 93 VAC at 50/60 Hz |
| Rechargeable battery circuit | |
| Voltage | 24 VDC |
| Charging current | 1.5 or 3 A, selectable |
| Charging capacity | 65 Ah max. |
| Type | Sealed lead acid only |
| Battery operating voltage | 20.4 V min. |
| Notification appliance/Auxiliary power circuits | |
| Quantity | 4 |
| Circuit designation | |
| NAC | Class B (Style Y] |
| AUX | Class B |
| Output voltage | |
| NAC | 24 VDC |
| AUX | 24 VDC |
| Output current, NAC | |
| Regulated | 3.0 A max. per circuit<br>6.0 A total, shared |
| Special application | 3.0 A max. per circuit<br>9.0 A total, shared |
| Output current, AUX | 6.0 A total, shared |
| EOLR | 15 kΩ (UL P/N EOL-15, ULC P/N EOL-P1) |
| Wire size | 18 - 12 AWG (0.75 - 2.50 mm²) [Note 2] |
| Ground fault impedance | 10 kΩ |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

Note 1: Internal and NAC/AUX outputs
Note 2: Mains wiring is typically 18 to 12 AWG (0.75 mm² to 2.50 mm²

## VM-SLCXB Signaling Line Expansion Card

This Card provides up to two Class A or Class B data circuits for V-Series detectors and GSA modules. The VM-SLCXB includes one preinstalled VM-SLC signaling line circuit card. A second SLC card (separately purchased) can be added to provide an additional device loop.

| | |
|---|---|
| Voltage | 19.0 VDC nom., 24 VDC max. |
| Current with full loop of devices for one circuit | |
| Standby | 144 mA at 24 VDC |
| Alarm | 204 mA at 24 VDC |
| Current with full loop of devices for two circuits | |
| Standby | 264 mA at 24 VDC |
| Alarm | 336 mA at 24 VDC |
| Smoke power | |
| Voltage | 24 VDC max. |
| Current | 19.95 mA |
| Circuit | |
| Designation | Class B or Class A |
| Capacity | 125 detector and 125 module addresses per circuit |
| Resistance | 100 Ω max. |
| Capacitance | 0.5 µF max. |
| Wire size | 12 to 18 AWG (1.0 to 4.0 mm²) max. |
| Wire size | 12 to 18 AWG (1.0 to 4.0 mm²) max. |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

## VM-SLC Signaling Line Circuit Card

provides one Class B or Class A signaling line circuit loop on a VM-CPU main board that supports up to 125 detector and 125 module addresses. The card also provides resettable 24 VDC for powering conventional two-wire smoke detector circuits on V-Series modules.

| | |
|---|---|
| Quantity | One standard, second card optional |
| Current for a second loop with full loop of devices | |
| Standby | 120 mA at 24 VDC |
| Alarm | 132 mA at 24 VDC |
| Circuit | |
| Designation | Class B (Style 4), Class A (Style 6) |
| Capacity | 125 detector and 125 module addresses per circuit |
| Resistance | 100 Ω max. |
| Capacitance | 0.5 µF max. |
| Smoke power output | |
| Voltage | 24 VDC |
| Current | 85 mA |
| AUX power output | 24 VDC, resettable or continuous<br>1.0 A each circuit, 1.0 A total |
| Wire size | 18 to 12 AWG (0.75 to 2.5 mm²) |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

# Specifications, network options

## Fiber Optic Transceivers

are used with a fiber optic network module to provide transmission and reception capability over fiber optic cable for fire control panels. Class B and Class A configurations are supported.

| | |
|---|---|
| Operating voltage | 24 VDC |
| Budget | |
| SMXLO2 | 15 dBm between two interfaces |
| SMXHI2 | 25 dBm max. and 8 dBm min. between two interfaces |
| MMXVR | 10 dBm between two interfaces |
| Wavelength | |
| SMXLO2, SMXHI2 | 1300 nm |
| MMXVR | 820 nm |
| Cable type | |
| SMXLO2, SMXHI2 | 8.3/125 µ |
| MMXVR | 50/125 µ, 62.5/125 µ, or 100/140 µ |
| Connector type | |
| SMXLO2, SMXHI2 | Duplex SC |
| MMXVR | ST |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

## VM-NOC RS-485 Network Option Card

is used to connect up to eight VM-1 panels. The card enables two independent RS-485 circuits for network data and digital audio communications. Class B and Class A wiring is supported.

| | |
|---|---|
| Voltage | 24 VDC |
| Current | |
| Standby | 98 mA at 24 VDC |
| Alarm | 98 mA at 24 VDC |
| Signal level | 5 Vp-p |
| Circuit designation | |
| Network data | Class B (Style 4), Class A (Style 6) |
| Network audio | Class B (Style 4), Class A (Style 6) |
| Isolation | |
| Network data | A port not isolated<br>B port isolated |
| Network audio | A IN and B IN isolated<br>A OUT and B OUT not isolated |
| Wire size | Twisted-pair, 6 twists/ft., min.<br>18 to 12 AWG (0.75 to 2.5 mm²).. |
| Circuit length | 5,000 ft. (1,524 m) between any three panels |
| Circuit resistance | 90 Ω max. |
| Circuit capacitance | |
| Network data | 0.3 µF max. |
| Network audio | 0.09 µF max. |
| Control panels | 8 max. |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

# Specifications, audio options

**VM-NOCF Fiber Network Option Module** provides a fiber optic, or combination fiber optic and RS-485 communication path, for VM-1 control panels.

| | |
|---|---|
| Operating voltage | 24 VDC |
| Current rating | 105mA Standby<br>105mA Alarm<br>Add 71.2 mA for each SMXLO2 and SMXHI2<br>Add 20 mA for each MMXVR |
| Fiber optics network and audio | |
| Budget | |
| SMXLO2 | 15 dBm max. between two interfaces |
| SMXHI2 | 8 to 25 dBm between two interfaces |
| MMXVR | 10 dBm max. between two interfaces |
| Cable type | |
| SMXLO2, SMXHI2 | 8.3/125µ |
| MMXVR | 50/125µ, 62.5/125µ, or 100/140µ |
| Connector type | |
| SMXLO2, SMXHI2 | Duplex SC |
| MMXVR | ST |
| Wavelength | |
| SMXLO2, SMXHI2 | 1300 nm |
| MMXVR | 820 nm |
| Network data circuit | |
| Circuit configuration | Class B (Style 4) or Class A (Style 7) |
| Data rate | 19.2 and 38.4 Kbps Isolated from previous panel CPU when using wire |
| Isolation | Total isolation when using fiber optic cable |
| Digital audio circuit | |
| Circuit configuration | Class B (Style 4) or redundant Class B (Style 7) [Note 1] |
| Data rate | 327 Kbps Isolated from previous panel CPU when using wire |
| Isolation | Total isolation when using fiber optic cable |
| Network data circuit wire segment | |
| Circuit | |
| Length | 5,000 ft. (1,524 m) max. between any three panels |
| Resistance | 90 Ω max. |
| Capacitance | 0.3 µF max. [Note 2] |
| Wire type | Twisted pair, 18 AWG (0.75 mm²) min. |
| Digital audio circuit wire segment | |
| Circuit | |
| Length | 5,000 ft. (1,524 m) max. between any three panels |
| Resistance | 90 Ω max. |
| Capacitance | 0.09 µF max. [Note 2] |
| Wire type | Twisted pair, 18 AWG (0.75 mm²) min. |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

Note 1: Must be installed in separate conduit.
Note 2: Include shield capacitance.

**VM-MFK Master Firefighters' Telephone** adds two-way firefighters' telephone capability to a VM-PMI Paging Microphone Interface. The VM-MFK and the VM-PMI comprise the fire command center.

| | |
|---|---|
| Voltage | 24 VDC |
| Current | |
| Standby | 37 mA |
| Alarm | 39 mA |
| Telephone riser | |
| Circuit designation | Class A or Class B |
| Line impedance | 52 Ω, 0.2 µF max. |
| EOL resistor | 4.7 kΩ |
| Active telephones | 5 max. |
| Ground fault impedance | 1 kΩ |
| Wire size | 18 to 12 AWG (0.75 mm² to 2.50 mm²)<br>Shielded twisted-pair |
| Isolation | Isolated and supervised |
| Controls and indicators | |
| Common | |
| Paging Volume | Indicates the relative signal strength during an active page |
| Ready To Page | Flashes during preannouncement tone, steady when ready to page |
| Firefighter telephone | |
| Page By Phone | Activates and deactivates the remote firefighter telephone to paging channel |
| Buzzer Silence | Silences the call-in request buzzer |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

**VM Remote Microphone** provides remote paging capability throughout a building or campus. Each remote microphone has two inputs for connecting other remote microphone units. The paging circuit supports up to 63 interconnected remote paging stations.

| | |
|---|---|
| Voltage | 21 to 27 VDC |
| Current | 52 mA |
| Wiring Type | |
| Audio out | 14 to 18 AWG (1.0 to 2.5 mm²) max., shielded twisted-pair, in conduit |
| Key out | 14 to 18 AWG (1.0 to 2.5 mm²) max., twisted-pair, in conduit |
| Resistance | 210 Ω max. |
| Capacitance | 1 µF |
| Audio Output | 1 VRMS at 400 to 4,000 Hz (4 kHz) |
| Trouble relay | |
| Current | 1 A at 30 VDC resistive |
| UL rating | Common |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

## VM-PMI Paging Microphone Interface with EAEC Emergency Audio Evacuation Controller Card provides controls for emergency voice/alarm communication and two-way firefighters' telephone communication. The VM-PMI consists of an audio mounting bracket, EAEC Emergency Audio Evacuation Controller card, enclosure, and paging microphone.

## The EAEC Emergency Audio Evacuation Controller Card provides the audio source interface for emergency voice/alarm communication and two-way firefighters' telephone communication. In addition, the card includes an RJ-11 connection for downloading an audio database.

| | |
|---|---|
| Voltage | 24 VDC |
| Current | |
| Standby | 23 mA |
| Alarm | 29 mA |
| Remote microphone input | Isolated and supervised |
| AUX input | |
| Impedance | 1 kΩ |
| Level | 0.2 VRMS to 1.0 VRMS |
| Frequency response | 100 Hz to 4 kHz |
| Ground fault impedance | 10 kΩ |
| Wire size | 18 to 12 AWG (0.75 mm² to 2.50 mm²) |
| Audio channels | 4 simultaneous |
| Audio inputs | |
| Local microphone | Isolated and supervised |
| Remote microphone | Isolated and supervised |
| Firefighter telephone | Isolated and supervised |
| Remote audio | Isolated and supervised |
| Messages | |
| Storage | 2 min |
| Length | 39 s max. |
| Controls and indicators | |
| Common | |
| Paging Volume | Indicates relative signal strength during active page |
| Ready To Page | Flashes during preannouncement tone, steady when ready to page |
| Paging Microphone | |
| All Call | Activates/deactivates page to all areas |
| All Call Minus | Activates/deactivates page to areas not receiving EVAC or Alert message |
| Page To Evac | Activates/deactivates page to areas currently receiving EVAC message |
| Page To Alert | Activates/deactivates page to areas currently receiving Alert message |
| Firefighter Phone | |
| Page By Phone | Activates/deactivates remote firefighter telephone to paging channel |
| Buzzer Silence | Silences call-in request buzzer |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

## D12LS-VM Control-Indicating Module provides additional operator interface capability. The module consists of 12 groups of two LED-switches arranged as a top LED that is software programmable to amber, red, blue, or green, and a bottom amber LED.

| | |
|---|---|
| Voltage | 24 VDC |
| Current<br>Standby<br>Alarm | <br>11 mA.<br>11 mA plus 2.5 mA for each active LED, 58 mA max. |
| Operating environment<br>Temperature<br>Relative humidity | <br>32 to 120°F (0 to 49°C)<br>0 to 93% noncondensing |

## ACHS Audio Channel Selector Card converts digital audio from an EAEC card into an analog preamp signal. A VM-1 control panel supports up to three ACHS cards.

| | |
|---|---|
| Voltage | 24 VDC |
| Current | |
| Standby | 47 mA |
| Alarm | 64 mA |
| Circuit | |
| Designation | Class B (Style Y) or Class A (Style Z) |
| Output | 1 VRMS analog signal |
| Resistance | 100 Ω max. |
| Capacitance | 0.2 µF |
| EOL resistor | 15 kΩ |
| Wire size | 18 - 12 AWG (0.75-2.50 mm²), twisted pair [1] |
| Amplifier capacity | Fifteen AA30/50 amplifiers per ACHS |
| Compatible controllers | EAEC, AMK-RN, VM-MFK |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

## Voice Evacuation in Sleeping Areas

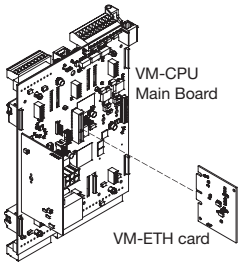
VM system audio components are system is part of an end-to-end low frequency solution listed to UL 464 and UL 864. The system is approved for code-compliant 520 Hz signaling in sleeping areas when used in conjunction with:

- integrated voice audio capability
- a factory-supplied 520 Hz audio file
- one or more Genesis High Fidelity speakers (G4HF or GCHF series)

Consult the VM Control Panel Compatibility List for details.

# VM-ETH Ethernet Adapter Cards

Three optional Ethernet adapter cards are available for VM applications. Each of these provide specific features such as panel programming, diagnostics, and status monitoring, as well as central station connectivity, and email or email-to-text messaging capability.




| Supported communications | ETH1 | ETH2 | ETH3 |
|---|---|---|---|
| Standard 10/100 Base-T Ethernet network connection for panel programming and diagnostics | • | • | • |
| IP Dialer Communications | | • | • |
| Email and Text Communications | | | • |

**Each VM control panel** supports up to eight IP services, which can provide connection to any combination of the following functions:

Programming
IP Dialer (IP-DACT)
Email

**Each VM network** supports up to:

100 Dialer Accounts, and;

100 Email Accounts (up to 20 email addresses per account).

### VM-ETH1, VM-ETH2, VM-ETH3 Specifications

*See Ordering Information for adapter card functional descriptions*

| | |
|---|---|
| Ethernet | 10/100 Base-T |
| Voltage | 24 VDC |
| Current | |
| Standby | 42 mA |
| Active | 54 mA at 24 VDC |
| Connection mode | Auto negotiation |
| Wire runs | |
| Distance | 200 ft. (60 m) max. [Note 1] |
| Type | Standard Cat 5 or Cat 5e |
| Connector | RJ-45 |
| IP address | 192.168.001.003 (default) |
| Subnet mask | 255.255.255.0 (default) |
| Default port ID | 2501 |
| Gateway | 000.000.000.000 (default) |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

Note 1: Panel to communication equipment

**VM-DACT Dual Line Dialer Card** provides dialer communications between the VM-1 control panel and remote locations over telephone lines. Alarm, supervisory, and trouble information is transmitted to the remote site using one or two telephone lines in dual or split format to any desired receiver.

| | |
|---|---|
| Voltage | 24 VDC |
| Input power | |
| Supervisory | 60 mA |
| Active | 95 mA |
| Output | 19.2 or 38.4 Kbps |
| Output current | 100 mA max. |
| Phone line | One/two loop start line on public switched telephone network, pulse, or DTMF dialing (party, ground start, and PBX lines are not acceptable.) |
| Modem | V.32 bis 14.4 Kbaud |
| Dialer protocol | Contact ID |
| Wall connector | Standard RJ-31X or RJ-38X phone jack |
| Line supervision | |
| Trouble | When on-hook line voltage < 10 V |
| Off-hook current | < 10 mA |
| Telco compliance | Communications Canada CS-03, FCC/CFR 47 Part 68 |
| FCC registration number | EDWUSA-47115-AL-E |
| Operating environment | |
| Temperature | 32 to 120°F (0 to 49°C) |
| Relative humidity | 0 to 93% noncondensing |

# Ordering Information

| Intelligent Analog Control Panels | | |
|---|---|---|
| VM-1R (English) | VM-1R-FR -CA (French Canadian) | FACP complete system with user interface, CPU, one addressable loop, four Class B NACs, Universal 110/220v 10 Amp power supply, red door. Order VM-SLC for second loop. |
| VM-1S (English) | VM-1S-FR -CA (French Canadian) | FACP complete system with user interface, CPU, one addressable loop, four Class B NACs, Universal 110/220v 10 Amp power supply, silver door. Order VM-SLC for second loop. |

| Option modules and accessories for VM series | |
|---|---|
| VM-SLCXB | Signaling Line Expander Card, comes with one loop, for a second loop order VM-SLC. |
| VM-SLC | Loop Expansion Module, 250 addressable devices total: 125 detectors, 125 modules. |
| VM-SLC-HC | High Capacity Loop Expansion Module. For use with circuits that contain more than 90 isolators. |
| VM-DACT | Dialer, dual line. |
| D12LS-VM | Control/Indicating Display Strip, 12 groups: two LEDs (1 4-color, 1 yellow) with switch. |
| VM-BF | Blank Front, Outer Door Window |
| CLA-PS10 | Class A Adapter, PS10 NACs. |
| CAB6BEQ | Seismic hardening Kit for batteries up to 17Ah. Larger batteries use external cabinet BC-1. |
| VM-MFKEQ | Master Firefighter Telephone Seismic Kit |
| MIR-PRT/S | Desk mount printer |
| BC-1 | Free-standing battery cabinet with key lock |
| BC-1R | Free standing battery cabinet with key lock; Red |
| BC-1EQ | Seismic hardening Kit for BC-1 series enclosure |
| VM-ELEC | Replacement Base Electronics kit. |
| VM-ELEC -FR-CA | Base Electronics, replacement, Kidde. French Canadian Language |
| PS10-4B | Replacement power supply |

**Note:** For earthquake anchorage, including detailed mounting weights and center of gravity detail, please refer to *Seismic Application Guide 3101987-EN.* Approval of panel anchorage to site structure may require local AHJ, structural, or civil engineer review.

| Audio components | |
|---|---|
| VM-PMI | Audio System Control and Paging Interface. Includes audio control unit, interconnect cables, mounting plate, paging interface with microphone, and user controls. |
| VM-PMI-LK -FR-CA | PMI language kit, includes paging microphone and Fire fighter phone language kit - French Canadian Language. |
| VM-MFK | Master Firefighters' Telephone Kit. Includes single riser interface (Class B or A), and master telephone. Requires VM-PMI for mounting. |
| ACHS | Audio Channel Selector, one channel, supervised preamp output, three max per panel. |
| EAEC | Emergency Audio Evacuation Controller, board only. For replacing controller in VM-PMI. |
| AMK-RN | Audio mounting kit. Used to mount ACHS option cards in control panels without audio system control components. |
| VM-ARM | Remote Microphone, includes cabinet. (Add "S" for surface.) |
| SIGA-AA30 | 30 Watt Intelligent Audio Amplifier |
| SIGA-AA50 | 50 Watt Intelligent Audio Amplifier |
| APS6A | 6.5 Amp Booster Power Supply |
| APS10A | 10 Amp Booster Power Supply |

| Network communication options | |
|---|---|
| VM-NOC | Network Option Card, RS485, Class B and Class A wiring. |
| VM-NOCF | Fiber Optic Communications Interface, Class A/B Network, Class A/B Audio Data. Provides single and/or multi mode network and digital audio fiber optic connections. Order VM-MMXVR, VM-SMXHI2 or VM-SMXLO2 transceivers separately. |
| MMXVR | Standard Output Multi Mode Fiber Optic Transceiver for VM-NOCF. ST connectors. |
| SMXHI2 | High Output Single Mode Fiber Optic Transceiver for VM-NOCF. Duplex SC connectors. |
| SMXLO2 | Standard Output Single Mode Fiber Optic Transceiver for VM-NOCF. Duplex SC connectors. |

| Ethernet communication Options | |
|---|---|
| VM-ETH1 | Ethernet Adapter, 10/100, provides Ethernet connection from system to VM-CU for programming and diagnostics remotely. Uses standard Ethernet cable (not supplied). |
| VM-ETH2 | Ethernet adapter card provides all the function of the VM-ETH1 plus the added capability of communicating to compatible digital alarm receivers. Please refer to the VM UL Compatibility List for the latest compatible receivers. |
| VM-ETH3 | Ethernet adapter card provides all the function of the VM-ETH2 plus the added capability of sending email messages as well as SMS text messages by means of email-to-text. |

| Programming Tools | |
|---|---|
| VM-CU | Programming software CD, VM series control panels. Requires USB hasp. |

Technology that saves lives



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