



## TECHNICAL DATA

## Multi-Hazard Release Control Panel Model VFR-500

### 1. DESCRIPTION

The Viking VFR-500 is a microprocessor-based multi-hazard, releasing control panel for preaction, deluge, and water-based extinguishing systems or for agent extinguishing systems. The VFR-500 may also be used as a stand-alone fire control panel.

This model is Underwriters Laboratory listed and complies with the following: UL Standard 864, ULC S527, and FM. It is also RoHS Compliant.

The VFR-500 shall be installed in accordance with the NFPA-12, NFPA-12A, NFPA-13, NFPA-15, NFPA-16, NFPA-17, NFPA-17A, NFPA-72, NFPA-750, NFPA 2001, and the Canadian Electrical Code Part 1 C22.1, ULC-S524.

For complete product information, refer to the *VFR-500 Conventional Releasing Panel Installation, Operations and Programming Manual* (Manual #5403789).



#### Features

- Multi-hazard operation
- Supervised microprocessor
- 80-character LCD display
- Customizable banner messages and zone descriptions
- On-board, menu-driven programming controls
- Protected releasing circuits (against false activations)
- Seven (7) Class B initiating circuits
- Two (2) Class B supervisory circuits\*\*
- Four Class B output circuits
- Programmable cross zoning
- Continuous or timed discharge
- 4,000-event history buffer
- Walk test with automatic time-out
- Ethernet connection for programming and non-listed communication
- Email support (system status and events)
- Customizable reminder emails
- Alarm, trouble, supervisory, and waterflow/discharge confirmation relays
- Optional Class A output zone module
- 35 standard programs in panel memory
- Password-protection
- 24-hour clock
- Supervised remote annunciator output (up to 31 per system)
- Auxiliary 24 VDC Power (constant and resetable)
- Lockable steel cabinet with optional trim bezel
- 120 or 220 VAC primary power
- Houses two (2) 12AH batteries (up to 90 hours of stand-by power)
- Wide compatibility range (including spot heat detectors, smoke detectors, and linear heat detectors)

\*\*Can be used for supervisory, tamper, low air, high air, or abort switch.

#### **⚠ WARNING**

**Installing or servicing fire protection products such as sprinklers, valves, piping etc. can expose you to chemicals including lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).**


**TECHNICAL DATA**
**Multi-Hazard Release Control  
Panel Model VFR-500**
**2. LISTINGS AND APPROVALS**

**cULus Listed**

- Meets UL Standard 864
- Clean agent extinguishing system unit


**FM Approved**

- Deluge systems, preaction systems, refrigerated area sprinkler systems
- Control panel group 4
- Clean agent extinguishing systems


**CE**
**RoHS Compliant**
**3. TECHNICAL SPECIFICATIONS**

Parameter	Value
Battery capacity	Up to two (2) 12Ah batteries
Battery	3 Amps power for NACs, AUX, and P-Link accessories 3 Amps per NAC, regulated Batter charger range 8-55 Ah P-Link and AUX maximum current of 1 Amp (each)
Dimensions	18.5 x 14.6 x 4.75
Enclosure	18 AWG cold rolled steel, locking removable door, full dead front
Environmental	Indoor use only, 32—120 °F (0—49 °C) 95% relative humidity
Power requirement	120-240 VAC (50/60 Hz)


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### 3.1 Ordering Information

Panels		
Part Number	Description	
26107	VFR-500 panel for deluge, preaction, firecycle III, and surefire systems	
Accessories and Replacement Parts		
Part Number	Description	Function
14155	CA2Z module (class A initiating device circuit)	Converts two (2) Class B initiating device circuits into two Class A circuits (Not for 4-wire smoke detectors unless approved by the AHJ.)
26123	IDC-6 module (Six (6) initiating zone expansion module)	Provides six (6) additional Class B inputs or three (3) Class A inputs. Up to four (4) per system allowed.
26124	CA-4064 module (Class A converter module)	Limit of one (1) per system. Allows for Class A wiring of the P-link communication bus and the four (4) built-in output circuits.
14157	ARM-1 module (auxiliary relay module, 4 pole)	Activated by 24VDC indicating and/or releasing, polarity reversing circuits. The module provides a non-supervised DPDT relay that can be used for fan shutdown, door release, elevator recall, etc.
26125	RA-4410G3 (remote annunciator)	Connects to RS-485 and 24VDC terminals and provides common indication of alarms, supervisory, trouble, and other system status and control functions.
14159	MR-101/T SPDT relay module	Relay module
14160	MR-201 DPDT relay module	Relay module
14161	MR-801/T	Relay module
14162	EoLD resistor/diode	End of Line Diode assembly
14163	EoLR resistor	End of Line Resistor assembly
14177	Trim Bezel	See Figure 7
07920	12 VDC Battery, 8 Amp	Two (2) required to provide stand-by power in case of outage
07921	12 VDC Battery, 12 Amp	
09867	12 VDC Battery, 18 Amp	
26108	Replacement mother board/chassis	Replacement is not backwards compatible.

## 4. INSTALLATION AND OPERATION

Refer to the VFR-500 Conventional Releasing Panel Installation, Operations and Programming Manual and the wiring diagrams for appropriate installation and programming requirements. All applicable installation standards and buildings codes must be followed in accordance with the Authority Having Jurisdiction. Also refer to Viking's sprinkler system technical data documents for additional operating information and system requirements.



## 5. INSPECTIONS, TESTS, AND MAINTENANCE

### **WARNING**

Any system maintenance that involves placing a control valve or detection system out of service will impair the fire protection capabilities of that system. Prior to proceeding, appropriate impairment procedures per NFPA 25 shall be followed with the notification of all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected areas.

Failure to follow these instructions could cause improper system operation, resulting in serious personal injury and/or property damage.

### **NOTICE**

The building owner is responsible for maintaining the fire protection system and devices in proper operating condition. The Viking VFR-500 Release Control Panel must be kept free of foreign matter and environmental conditions that could impair its operation. Refer to VFR-500 Installation and Operation Manual for appropriate testing procedures. For minimum maintenance and inspection requirements, refer to NFPA 72 and NFPA 25. In addition, the Authority Having Jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.

## 6. CONTACT

The VFR-500 is available through Viking distributors only. Contact your local Viking sales office, which can be found on our website: [www.vikinggroupinc.com/locations](http://www.vikinggroupinc.com/locations)

### **The Viking Corporation**

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## 7. DIAGRAMS

### 7.1 Internal Panel Layout

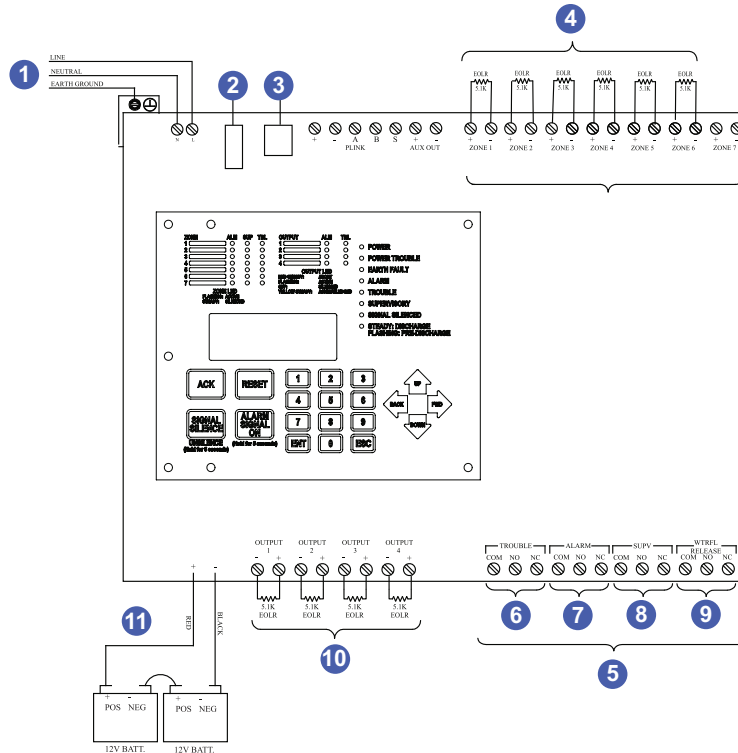


Figure – 1

Item	Description	Parameters
1	AC power input	Supervised, Non-Power-Limited
2	Fuse	4A-250VAC, Time lag
3	P-comm (Ethernet connection)	Connects to PC for programming operations
4	Panel inputs (initiating circuits)	Connects to normally open devices or compatible 2-wire smoke detectors. Maximum line resistance is 100 ohms (except with linear heat detectors)
5	Relay contacts	Dry contacts, rated at 3A, 30VDC. Refer to 6,7,8, and 9 below
6	Trouble circuit	Panel fault, loss of AC, loss of battery, wiring problem, input disabled, output disabled, or loss of auxiliary power
7	Alarm circuit	Smoke or heat detection, manual release, or waterflow
8	Supervisory circuit	Low air or valve tamper
9	Waterflow release circuit	Waterflow release
10	Panel outputs (indicating circuits)	General alarms, waterflow, release solenoid, supervisory bell
11	Battery connections	Non-power limited, and supervised



7.2 Dimensions

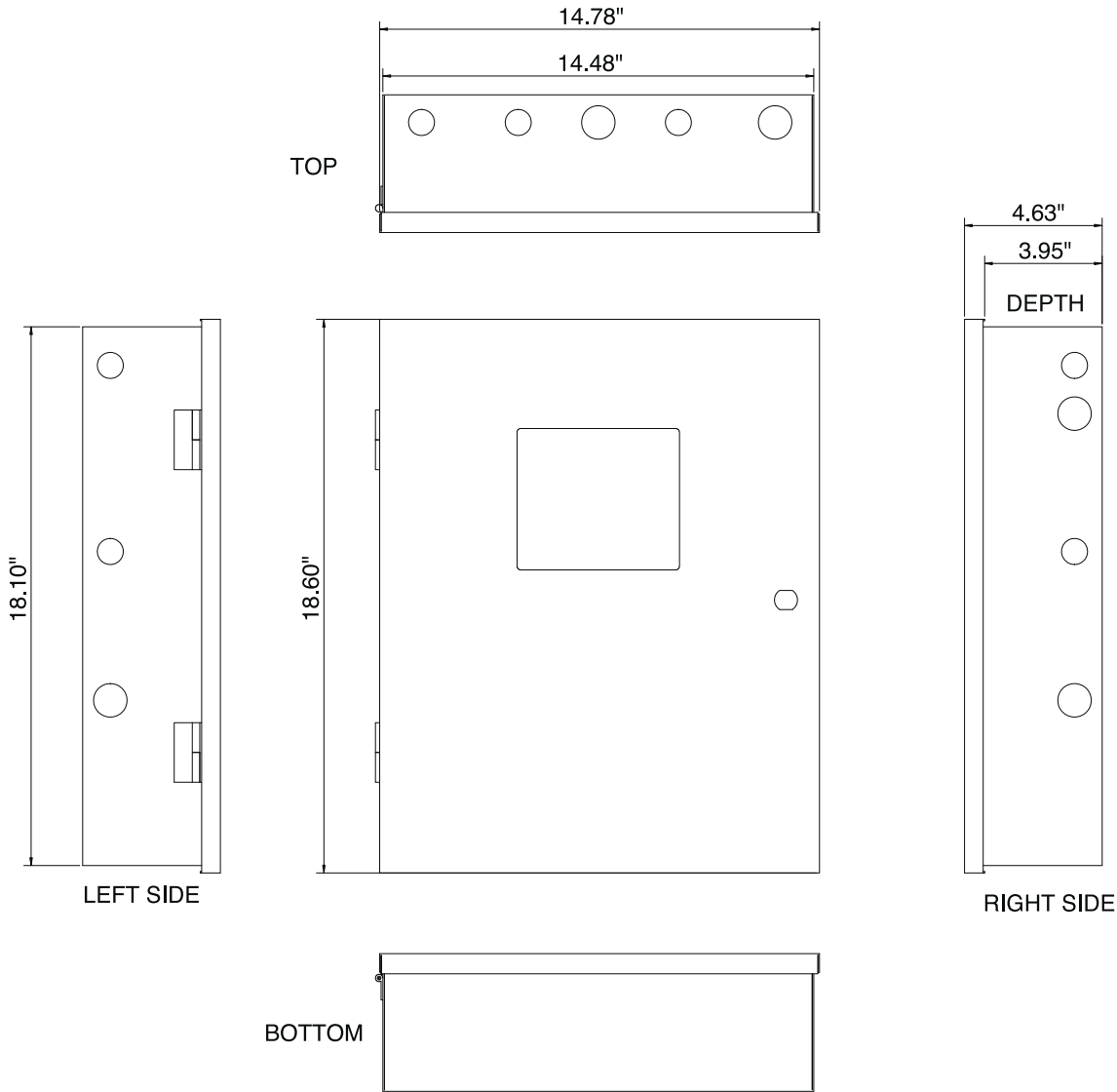


Figure - 2

### 7.3 Accessory - Remote Annunciator RA-4410G3

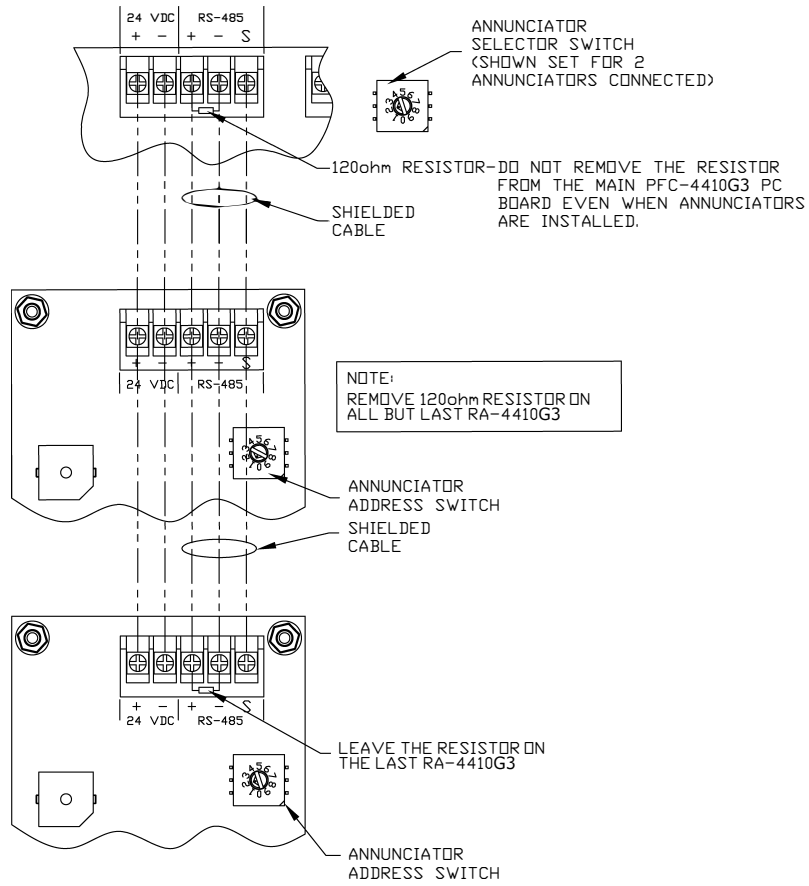


Figure - 3

7.4 Accessory - CA2Z Module

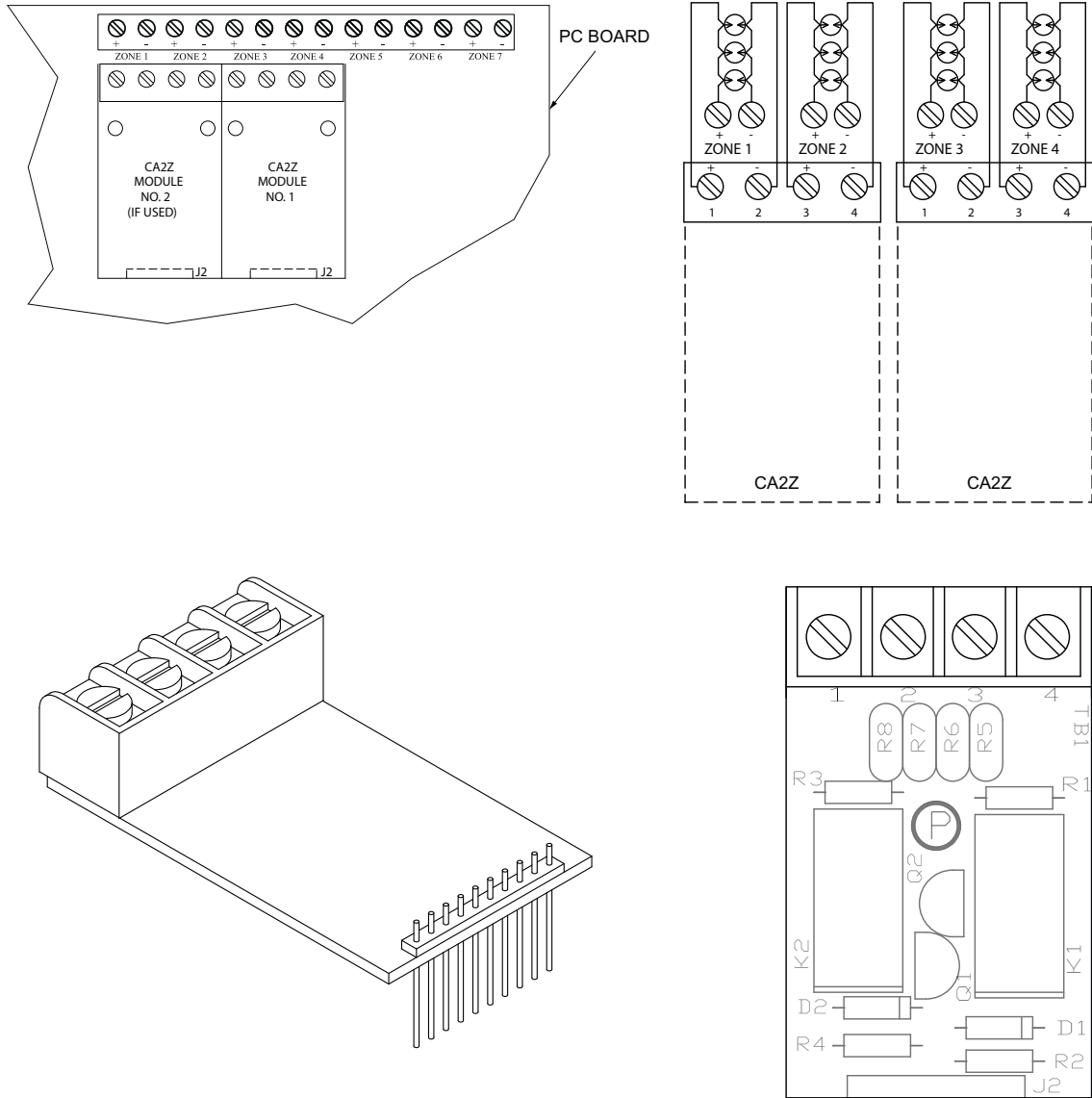
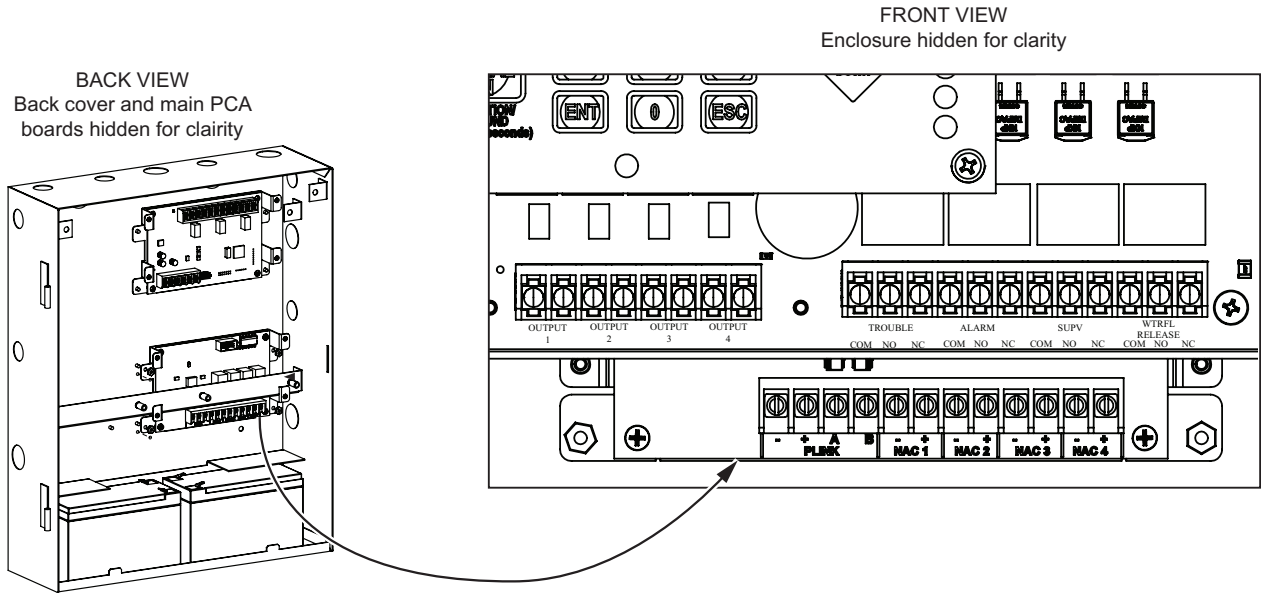


Figure – 4 CA2Z Module Detail (Class A Initiating Device Circuit)



### 7.5 Accessory - CA-4064 Module



Example of Output Wiring for CA-4064 and Class A P-Link Wiring

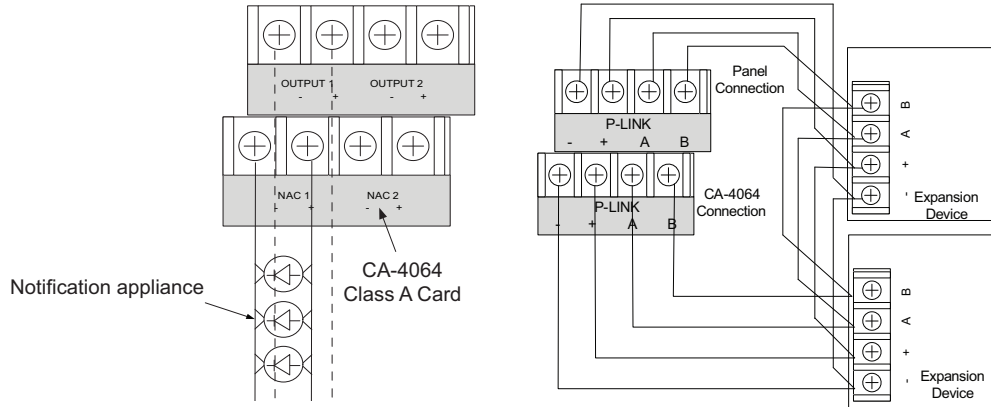


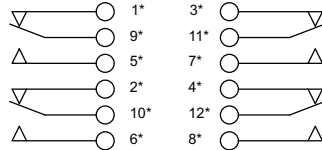
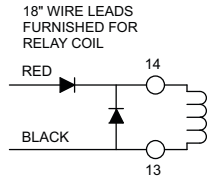
Figure – 5 CA-4064 Module Detail



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7.6 Accessory - ARM-1 Module



\* NUMBERS REFER TO  
SOCKET TERMINALS  
NOT RELAY PINS.

RELAY SHOWN DE-ENERGIZED

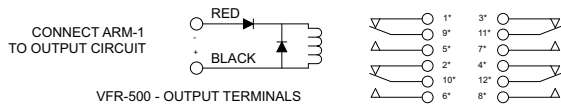
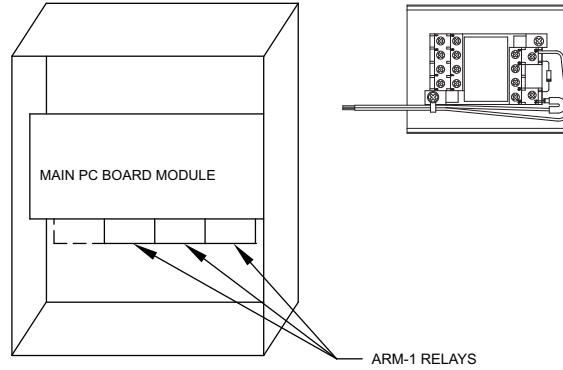


Figure – 6 ARM-1 Module Detail (Auxiliary Relay Module)

#### 7.7 Accessory - Trim Bezel

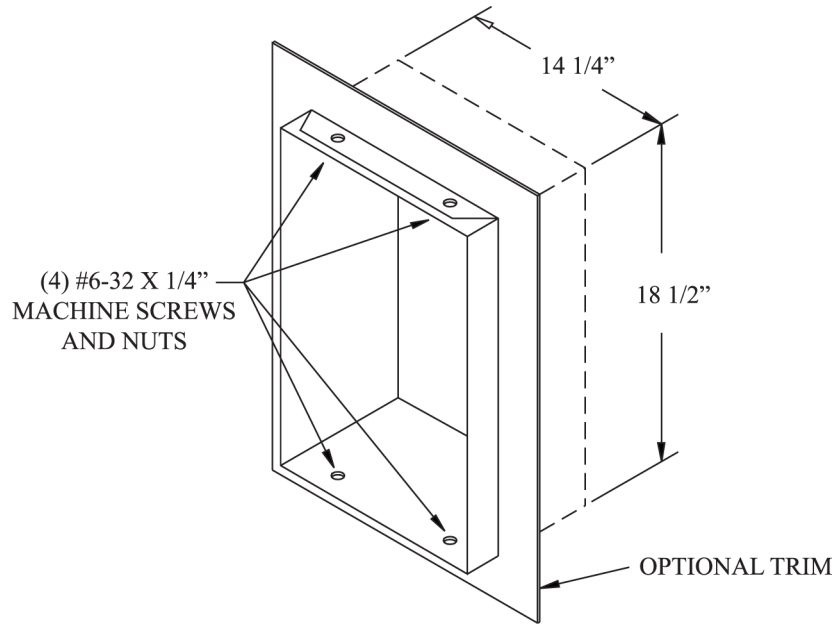


Figure - 7