



Wiring Diagram for the HCVX Fire Control Panel

This wiring diagram describes circuit connections for the model HCVX & HCVXD Fire Control Panel.

The operation of this product is intended for indoor use only.

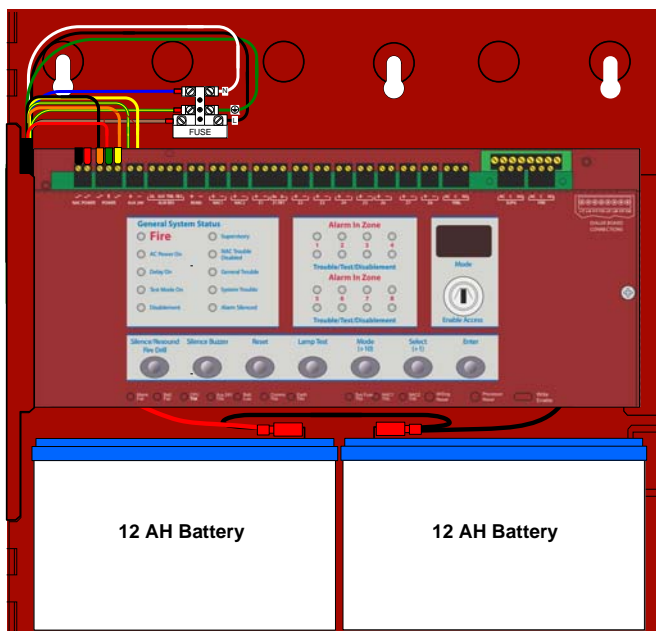
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Part Number: MAN-1193HA
Revision E01.00, Date: June 2016

Front View, Wire Gauge and Related Documentation Of The HCVX Fire Control Panel

Front View



Wire Gauge

Connect all field cabling using 14 to 22 AWG wiring except the AC input and the Optional Dialer. Connect field cabling of the Optional Dialer with 14 to 20 AWG wiring.

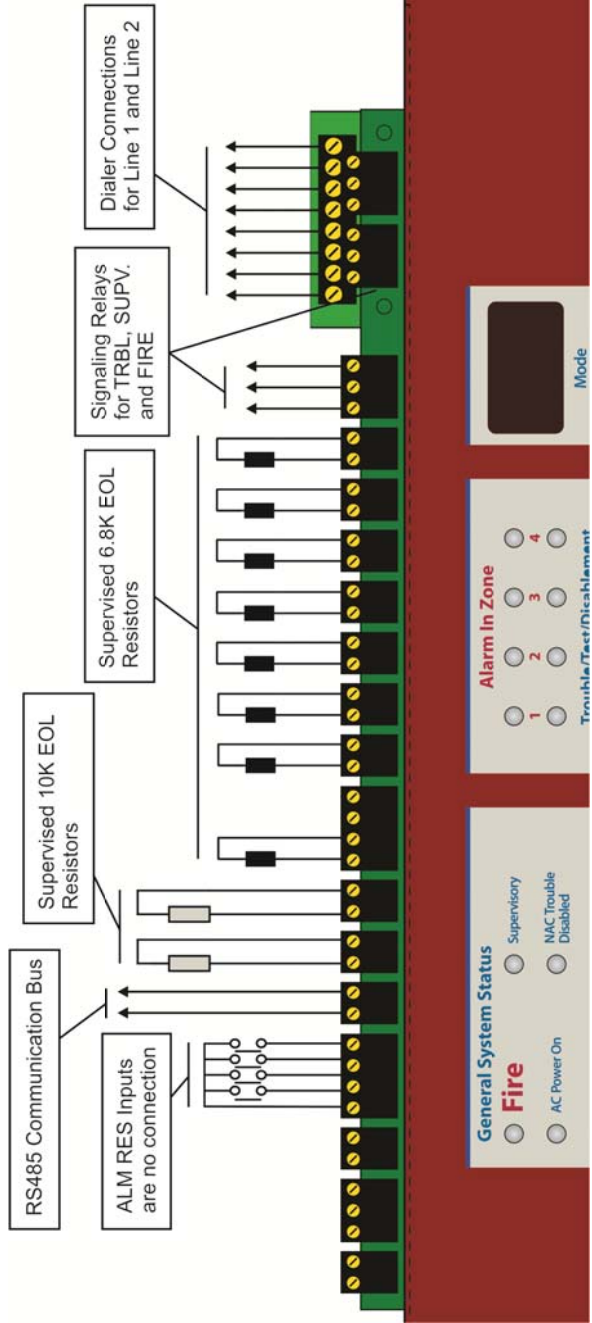
Connect field cabling of the AC input with 14 AWG wiring for line, neutral and ground terminations.

Related Documentation

The following documents shall be used to provide additional information for installing and operating the HCVX Fire Control Panel:

- Installation and Operation Manual, Man-1194HA, Rev. E01.XX
- Operating Instructions, Man-1195HA, Rev. E01.XX
- UL Compliance Label, HA1864-00, Rev. E01.XX


Connection Diagram Of the HCVX Fire Control Panel



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Main Supply Circuit

Line Connection

Terminals	Description	Voltage
L	AC Line	115 VAC @ 50 / 60Hz (Supervised), 170 VA Maximum
		230 VAC @ 50 / 60Hz (Supervised)), 170 VA Maximum
N	AC Neutral	
G 	Earth-Ground	
Power Supply		
AC Input Fuse		3.15 Amp, 250 VAC, slow-blow, 5 x 20mm
Input (Supervised)		115 or 230 VAC 50/60Hz
Transfer Voltage		115 VAC transfer @ 90 VAC, 230 VAC transfer @ 180 VAC

Rechargeable Battery Circuit

Standby-Battery Type	12 VDC, 7 AH or 12 AH, valve-regulated, lead-acid
Standby-Battery Charging	Two standby batteries wired in series
Charge Current	1.7 A maximum
Output Current	4.5 Amps
Battery Fuse	6.3 A, 250 VAC, (.2 x 0.787401)" ((5 x 20) mm)
Battery Charge Voltage	27.6 VDC current limited to 1.7 A maximum
Current Draw From Battery In Mains Fail, Standby, Not in Alarm	100 mA with the internal buzzer sounding 120 mA with the Dialer and the internal buzzer sounding
Maximum Current Draw of FACP, In Alarm	<p>680 mA Represents load with dialer and eight-zone-outputs shorted. This current level excludes loads from NACs and Aux 24 V.</p> <p>290 mA Represents load with dialer and two-zone-outputs shorted. This current level excludes loads from NACs and Aux 24 V.</p>
Maximum Current Draw From Batteries	5.18 Amps

Ground Fault Indications

A ground fault indication occurs when 30K Ohms or less exists between earth-ground and the following field terminals of the HCVX Fire Control Panel:

- AUX 24V
- NAC 1 and NAC 2
- Z1 and Z1 RET through Z8

Power Output Circuits

Special application outputs are provided on the following terminals of the HCVX Fire Control Panel :

- NAC 1
- NAC 2
- AUX 24V

Limited Energy Circuits

All circuits of the HCVX Fire Control Panel are power limited except AC input / output, battery and transformer input / output.

Supervised Circuits

All UL recognized circuits of the HCVX Fire Control Panel are supervised except the relay terminals of TRBL, SUPV and FIRE.

Initiating Device Circuit

Alarm signals are processed for NFPA 72 conventional IDC Class B, Style C or Class B, Style B, automatic fire alarm, manual fire alarm.

Style C provides trouble conditions for direct shorts and opens. Style B provides alarm conditions for direct shorts and provides trouble conditions for opens.

Set Class A operation using the terminals of Z1 and Z1 RET.
Set Class B operation using only the terminals of Z1.

Authorized initiating devices are two-wire smoke and closed-contact-type detectors.

Terminals

Z1 and Z1 RET through Z8

Supervised input: 6.8K Ohm EOL resistor, S2027; 470 Ohm trigger resistor, S2051 and 270 Ohm series resistor S2052.

Detectors – 270 Ohm
Pull Stations - 470 Ohm

Pull stations authorized for use with the HCVX Fire Control Panel are non-addressable and UL listed.

Initiating Device Circuit

Short Circuit Threshold	130 Ohms +/- 20%
ALM RES	No Connect (NC) terminals.
Ratings	
Maximum Operating Voltage	21.9 VDC
Maximum Short Circuit Current	65 mA
Maximum Line Impedance	20.3 Ohms

Notification Appliance Circuit

Polarized Appliance Requirement

NAC outputs of the HCVX Fire Control Panel accept devices that are polarized only.

A trouble condition is reported when non-polarized NAC devices are connected to these NAC outputs.

Field connections must include symbol-markings for plus (+) and minus (-) on all polarized appliance terminations.

Connection

Rating

NAC 1 and NAC 2 (+), (-)

Special Application: 18 to 28 VDC
@ 2.5 A continuous

Regulated: 18 to 28 VDC
@ 250 mA continuous

Fused: Electronic 2.5 A

Supervision: Voltage reversing DC

Short Circuit Threshold: 130 Ohms +/- 20%

Maximum line-voltage-drop: 2 VDC

Notification Appliance Circuit

NAC Synchronization

The HCVX Fire Control Panel support special application outputs of NAC 1 and NAC 2 when operating:

- Amseco NAC devices
- Gentex NAC devices
- System Sensor NAC devices
- Wheelock NAC devices

NAC channels 1 and 2 of the HCVX Fire Control Panel provide single and dual circuit synchronization.

Single circuit synchronization provides a synchronized output on one channel of two NAC channels.

Dual circuit synchronization provides a synchronized output on NAC 1 and NAC 2.

Maximum Current

The maximum current draw of the HCVX Fire Control Panel cannot exceed 5.18 A.

Outputs of the fire control panel can be loaded with combinations of currents as long as the total does not exceed 4.5 A.

All calculations of maximum current draw must include the 620 mA current required to operate the HCVX Fire Control Panel while in an alarm condition.

Notification Appliance Circuit

NAC outputs of the HCVX Fire Control Panel are not limited by conditions other than the maximum rated current threshold. NAC outputs of the HCVX Fire Control Panel can operate combinations of authorized NAC devices as long as the circuit load does not exceed 2.5 A.

Reference manufacturer data sheets for individual device loads and then total the loads to determine if the sum exceeds the 2.5 A threshold of each NAC output.

Communication Circuit

Condition	Rating
Standby Current	20 mA
Alarm Current	60 mA

Relay Circuits

Terminal	Rating
TRBL (NC), (C), (NO)	Power Factor: 1.0 30 VDC @ 1 A maximum, volt free change over contact Relay Contact: Form C (SPDT)
SUPV. (NC), (C), (NO)	
FIRE (NC), (C), (NO)	

AUX 24V

Terminal	Rating
AUX 24V (+ / -)	15 – 28 VDC, special application, 500 mA maximum



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