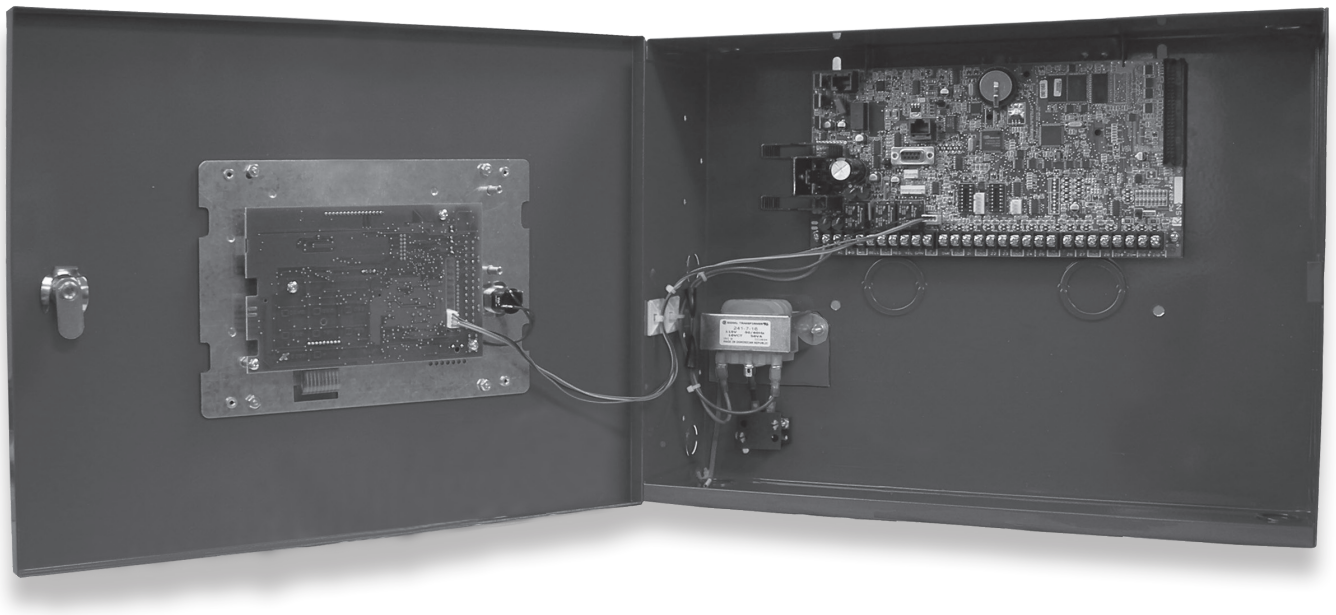
INSTALLATION GUIDE



XR500FC SERIES
COMMAND PROCESSOR™ PANEL

MODEL XR500FC, XR500NFC
COMMAND PROCESSOR
INSTALLATION GUIDE

FCC NOTICE

This equipment generates and uses radio frequency energy and, if not installed and used properly in strict accordance with the manufacturer's instructions, may cause interference with radio and television reception. It has been type tested and found to comply with the limits for a Class A computing device in accordance with the specification in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the installer is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna

Relocate the computer with respect to the receiver

Move the computer away from the receiver

Plug the compute into a different outlet so that computer and receiver are on different branch circuits

If necessary, the installer should consult the dealer or an experienced radio/television technician for additional suggestions. The installer may find the following booklet, prepared by the Federal Communications Commission, helpful:

"How to identify and Resolve Radio-TV Interference Problems."

This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402

Stock No. 004-000-00345-4

Information furnished by DMP is believed to be accurate and reliable.
This information is subject to change without notice.

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Wiring Diagrams

Revisions to This Document

Certifications

Product Specifications Summary

1.1 Power Supply

Transformer Input:	Primary input: 120 Vac, 60 Hz, Secondary output: 16 Vac 56 VA
Standby Battery:	12 Vdc, 1.0 Amps Max. charging current
Auxiliary:	12 Vdc output at .5 Amp Max*
Bell Output:	12 Vdc at .7 Amp Max*

Note: The combined Auxiliary and Bell outputs total cannot exceed 1.2 Amps with a 56 VA Transformer.

All circuits are inherent Power Limited except the red battery wire and AC terminal.

*** For Commercial Fire installations, see the Compliance Instructions section.**

1.2 Communication

- Built-in network communication to DMP Model SCS-1R and SCS-VR Receivers (XR500NFC only)
- Built-in dialer communication to DMP Model SCS-1R Receivers
- Optional cellular communication to DMP Model SCS-1R and SCS-VR Receivers
- Built-in Contact ID communication to DMP Model SCS-1R Receivers
- Optional 893A Dual Phone Line Module with phone line supervision
- Can operate as a local panel

1.3 Panel Zones

Eight 1k Ohm EOL burglary zones (zones 1 to 8)
Two 3.3k Ohm EOL powered zone with reset (zones 9 and 10)

1.4 Keypad Bus

You can connect up to a total of 16 of the following supervised keypads and expansion modules to the keypad bus:

- Alphanumeric keypads
- Single-zone detectors
- Wireless Keypads (maximum of 4)
- Four- and/or single-zone expansion modules
- Access control modules

1.5 LX-Bus™

You can connect the following devices to the LX-Bus™ provided on the panel or by the DMP 481, 462N, 462P, 463C 464-263C and 464-263H Interface Cards up to the maximum number of LX-Bus™ addresses. See Accessory Devices in section 3.4.

- Sixteen-, eight-, four- and/or single-zone expansion modules
- Model 521LX or 521LXT Smoke Detectors with CleanMe
- Model 2W-BLX or 2WT-BLX Smoke Detectors
- Graphic annunciator modules
- Relay output expansion modules

1.6 Outputs

The XR500FC Series provide two Single Pole, Double Throw (SPDT) relay outputs which require the installation of two Model 305 relays, each rated 1 Amp at 30 Vdc resistive (power limited sources only). A Model 431 Output Harness is required to use these outputs.

The XR500FC Series panels also provide four open collector outputs rated for 50mA each. The open collector outputs provide ground connection for a positive voltage source. A Model 300 Output Harness is required to use these outputs.

Panel Features

2.1 Description

The DMP XR500FC Series Command Processor™ Panel is a versatile 12 Vdc, combined access control, burglary, and fire communicator panel with a built in LCD Fire Command Center keyboard with membrane keyswitch. A complete system can provide:

- 574 programmable inputs and outputs for commercial and industrial fire alarm service
- Eight on-board grounded burglary zones
- Two on-board 12 Vdc Class B powered zones

The powered zones have a reset capability to provide for 2-wire smoke detectors, relays, or other latching devices. Connect a 12 or 24 Vdc regulated, power limited power supply listed for Fire Protective Signaling Systems to distribute notification appliance power between Model 865, 866 or 867 NAC outputs. Addressable smoke detectors and input modules round out the XR500FC Series to deliver a truly flexible and expansive fire detection and notification system. The Fire Alarm Control Panel is shipped pre-wired in a red metal enclosure.

2.2 Zone Expansion

Up to 574 additional zones are available on the XR500FC Series using DMP LCD keypad remote zone capability and zone expansion modules. The panel keypad data bus supports up to fifteen supervised device addresses with each address supporting up to four programmable expansion zones.

Up to 500 zones are available using the on board LX-Bus, Model 461 Interface Adaptor with 481, 462N, 462P, 463C 464-263C and 464-263H Interface Cards, and any combination of single, four, eight, or 16-zone expansion modules and single-zone LX-Bus™ detectors.

Note: Do not use shielded wire for LX-Bus or Keypad Bus circuits.

2.3 Output Expansion

In addition to the two SPDT relays and four programmable open collector outputs on the XR500FC Series, you can also connect up to 25 programmable Model 716 Output Expansion Modules to each LX-Bus. These modules can provide an additional 500 programmable SPDT relays.

The XR500FC Series provides 100 Output Schedules you can use for programming the 716 to perform a variety of annunciation and control functions. You can also assign the 716 outputs to any panel Output Options such as Fire Alarm, Communication Fail, or Phone Trouble Outputs. Refer to the 716 Installation Guide (LT-0183).

The LX-Bus™ also supports the Model 717 Graphic Annunciator Module. Each 717 module supplies 20 switched ground outputs that follow the state of their assigned zones.

Note: The 717 supports the first eight Keypad Bus addresses. To follow Keypad Bus addresses nine through 16, install multiple 716 modules. Refer to the 717 Installation Guide (LT-0235) and 716 Installation Guide (LT-0183).

2.4 Central Station Communication

You can program the XR500FC Series panel for reporting to DMP SCS-1R or SCS-VR Receivers using digital dialer, cellular, network, or Contact ID communication. The XR500FC Series connects at the premises to a standard RJ31X or RJ38X telephone jack. Use the DMP 893A Dual Phone Line Module when connecting the XR500FC Series panel to two separate phone lines in fire or burglary applications.

2.5 Caution Notes

Throughout this guide you will see caution notes containing information you need to know when installing the panel. These cautions are indicated with a yield sign. Whenever you see a caution note, make sure you completely read and understand its information. Failing to follow the caution note can cause damage to the equipment or improper operation of one or more components in the system. See the example shown below.

Always ground the panel before applying power to any devices: The XR500FC Series must be properly grounded before connecting any devices or applying power to the panel. Proper grounding protects against Electrostatic Discharge (ESD) that can damage system components.

2.6 Compliance Instructions

For applications that must conform to a local authorities installation standard or a National Recognized Testing Laboratory certificated system, please see the Wiring Diagrams for Notification Appliances and the Listed Compliance Specifications section near the end of this guide for additional instructions.

System Components

3.1 Description

The DMP XR500FC Series system is made up of an alarm panel with a built-in communicator, an enclosure, battery, one 16 Vac transformer, and keypads. You can use up to fifteen supervised 32-character LCD keypads; network communications and expansion interface cards; zone and output expansion modules; and initiating and indicating circuit modules. You can also connect auxiliary devices to the panel's output relays to expand the basic system control capability. Combined current requirements of additional modules may require an auxiliary power supply. Refer to the XR500FC Series Power Requirements section in this guide when calculating power requirements.

3.2 Wiring Diagram

The XR500FC Series diagram below shows some of the accessory modules you can connect for use in various applications. A brief description of each module follows in section 3.4.

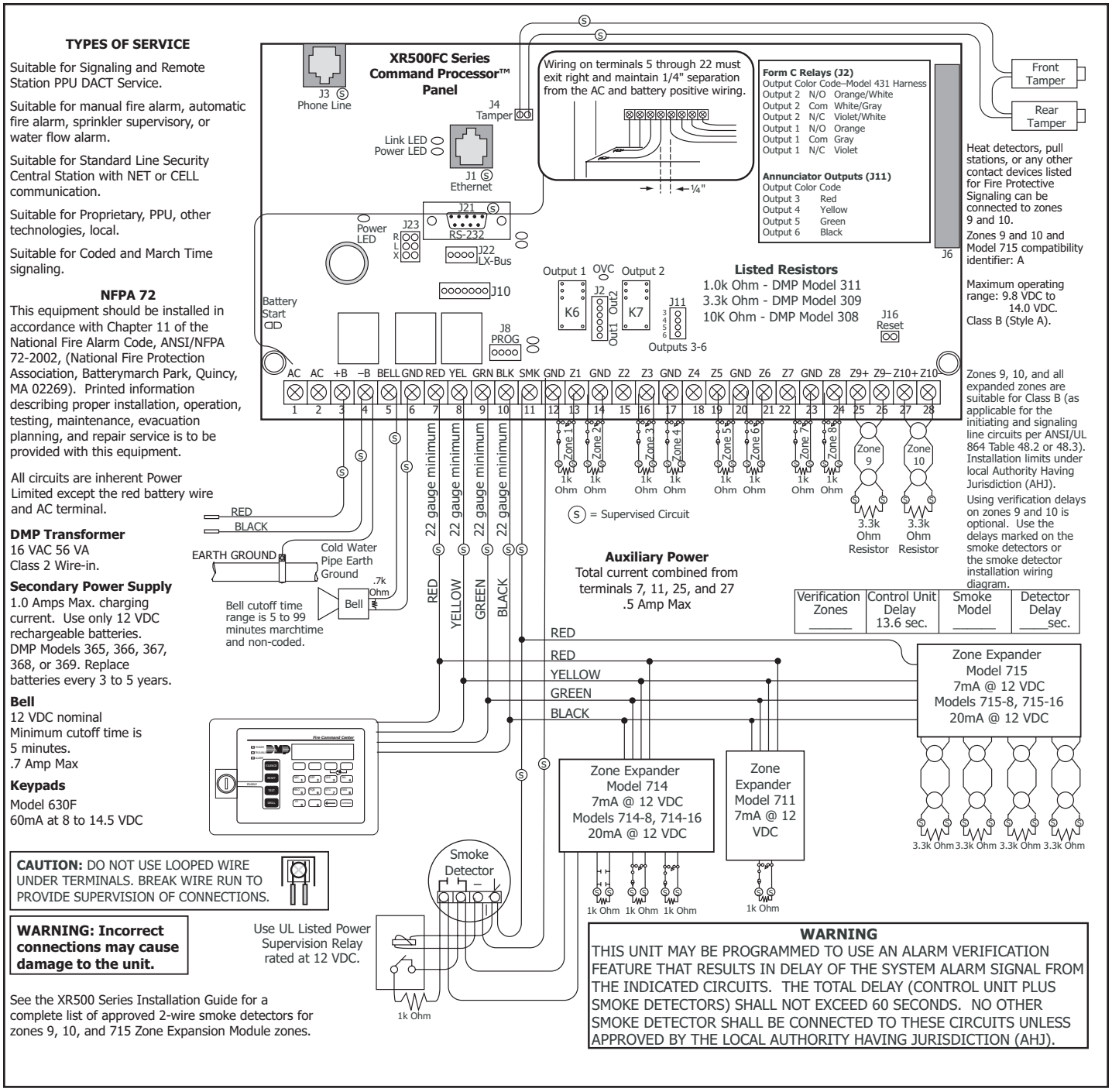


Figure 1: XR500FC Series Wiring Diagram

3.3 Lightning Protection

Metal Oxide Varistors and Transient Voltage Suppressors help protect against voltage surges on XR500FC Series input and output circuits. Additional surge protection is available by installing the DMP 370 or 370RJ Lightning Suppressors.

3.4 Accessory Devices

Interface Adaptor and Interface Cards	
461 Interface Adaptor Card	The 461 is an expansion mother board that plugs into the panel J6 Interface Connector and is required when using two or more Interface Cards. Use combinations of Interface Cards for expanding zones, network interfacing, local printing, and connecting wireless devices.
462N Network Interface Card	Allows you to connect the XR500FC Series to any compatible data network and use its communication capability in place of standard dial out telephone lines. The 462N also provides an LX-Bus™ connection.
462P Printer Interface Card	Allows you to connect the XR500FC Series to any compatible serial printer providing the user with real-time event recording. The 462P also provides an LX-Bus™ connection.
464-263C/464-263H Cellular Communicator Card	Provides a fully supervised alarm communication path (burglary only) over the CDMA network or HSPA + network for XR100/XR500 Series panels. The 464-263C or 464-263H also provides an LX-Bus™ for connecting zone and output expansion modules to the panel.
463C CDMA Cellular Communicator Card	Allows you to connect the XR500 Series to any compatible CDMA/SMS network. The 463C also provides an LX-Bus™ for connecting zone and output expansion modules to the panel.
481 Expansion Interface Card	Provides one LX-Bus for connecting up to 100 zone and output expansion modules.
Expansion Modules	
710 Bus Splitter/Repeater	Increase keypad/LX-Bus™ wiring distance to 2500 feet.
711 Single Point Zone Expanders	Provides one Class B zone for connecting burglary devices.
714, 714-8, 714-16 Zone Expanders	Provides Class B zones for connecting burglary and non-powered fire devices.
712-8 Zone Expander	Provides Class B zones for connecting burglary devices.
715, 715-8, 715-16 Zone Expanders	Provides 12 Vdc Class B powered zones for connecting smoke detectors, glassbreak detectors, and other 2- or 4-wire devices.
716 Output Expander	Provides four Form C relays (SPDT) and four switched grounds (open collector) for use in a variety of remote annunciation and control applications for use on the LX-Bus only.
717 Graphic Annunciator Module	Provides 20 zone following annunciator outputs (open collector) for use in a variety of remote annunciation and control applications for use on the LX-Bus only.
734, 734N Wiegand Interface Modules	Provides system codeless entry, and arming and disarming using access control readers.
DMP Two-Way Wireless Devices	
1100X/1100XH Wireless Receiver	Supports up to 500 devices in residential or commercial wireless operation.
1100R Repeater	Provides additional range for wireless devices.
1101 Universal Transmitter	Provides both internal and external contacts that may be used at the same time to yield two individual reporting zones from one wireless transmitter.
1102 Universal Transmitter	Provides an external contact.
1103 Universal Transmitter	Provides both and internal and external contacts that may be used at the same time to yield two individual reporting zones from one wireless transmitter. Requires EOL resistor for external contact.
1105 Universal Transmitter	Provides both internal and external contacts that may be used at the same time to yield two individual reporting zones from one wireless transmitter.
1125 PIR Motion Detector	Provides multiple lens configurations, dual coverage area selection, and sensitivity adjustments.
1127C/1127W PIR Motion Detector	Wall mount motion detector with panel programmable sensitivity and Disarm/Disable functionality.

3.4 Accessory Devices (continued)

DMP Two-Way Wireless Devices (continued)	
1142BC Two-button Hold-up Belt Clip Transmitter	Provides two-button hold-up operation with a belt clip.
1142 Two-button Hold-up Transmitter	Provides permanently mounted under-the-counter two-button hold-up operation.
1161 Residential Smoke Detector	Residential smoke detector with sounder.
1162 Residential Smoke/Heat Detector	Residential smoke/heat detector with sounder and fixed rate-of-rise heat detector.
1165 Commercial Smoke Detector	Commercial smoke detector.
1165H Commercial Smoke/Heat Detector	Commercial smoke/heat detector with fixed rate-of-rise heat detector.
1165HS Commercial Smoke/Heat Detector and Sounder	Commercial smoke/heat detector with fixed rate-of-rise heat detector and sounder.
1181 PIV	Commercial Post Indicator Valve (PIV)
1182 OS&Y	Commercial Outside Screw and Yoke Valve (OS&Y)
1183-135F Heat Detector	Fixed temperature heat detector
1183-135R Heat Detector	Fixed temperature and rate-of-rise heat detector
1184 Carbon Monoxide Detector	Carbon Monoxide Detector
Indicating and Initiating Devices	
860 Relay Module	Provides dry relay contacts that are programmable and controlled from the DMP panel annunciator outputs. Includes one Form C (SPDT) relay rated 1 Amp @ 30 Vdc. Sockets are provided to allow the addition of three Model 305 plug-in relays. These relays can be used for electrical isolation between the alarm panel and another system or switching 5, 12, or 24 Volts to control various functions within a building or around its perimeter.
865 Supervised Style W or X Notification Circuit Module	Provides supervised alarm current when using the XR500FC Series panel bell output and up to 5 Amps at 12 or 24 Vdc when using a listed auxiliary power supply. The 865 can supervise 2-wire or 4-wire style circuits for opens and shorts with individual LED annunciation.
866 Style W Notification Circuit Module	Provides supervised alarm current using the XR500FC Series panel bell output and up to 5 Amps at 12 or 24 Vdc when using a listed auxiliary power supply. The 866 can supervise 2-wire Style W circuits for opens and shorts.
867 Style W LX-Bus Notification Circuit Module	Provides supervised alarm current using the XR500FC Series panel bell output and up to 5 Amps at 12 or 24 Vdc when using a listed auxiliary power supply. The 867 connects to the XR500FC Series panel LX-Bus™ and provides one 2-wire Style W notification circuit for ground faults, open and short conditions. Individual Bell Relay addresses Bell Ring styles.
869 Dual Class A Style D Initiating Module	Provides two Class A, Style D, 4-wire initiating zones for connecting waterflow switches and other non-powered fire and burglary devices.
Accessory Modules and Keypads	
893A Dual Phone Line Module	Allows you to supervise two standard phone lines connected to an XR500FC Series panel. The 893A module monitors the main and backup phone lines for a sustained voltage drop and alerts users when the phone line is bad.
LCD keypads	Allows you to control the panel from various remote locations. Connect up to fifteen supervised Model 630F Remote Fire Command Center, 7060, 7063, 7070, 7073, 7160, 7163, 7170, 7173 Thinline™ keypads, or 7060A, 7063A, 7070A, 7073A Aqualite™ keypads to the keypad bus using terminals 7, 8, 9, and 10.
Addressable Smoke Detectors	
521LX, 521LXT	Single-zone, addressable conventional smoke, smoke/heat detectors that connect to the LX-Bus. Includes remote maintenance reporting, drift compensation, and multi-criteria detection.
2W-BLX, 2WT-BLX	Single-zone, addressable conventional smoke, smoke/heat detectors that connect to the LX-Bus. Includes drift compensation.

Installation

4.1 Mounting the Enclosure

The metal enclosure for the XR500FC Series must be mounted using screws in the four mounting holes shown in Figure 2. Mount the enclosure in a secure, dry place to protect the panel from damage due to tampering or the elements. It is not necessary to remove the XR500FC Series PCB when installing the enclosure.

The enclosure dimensions are 13.44" tall, 17.1" wide, by 4.8" deep.

Note: When using the XR500FC Series panel for listed applications, use the Model 350, 349, 341, or 352S enclosure for standby batteries.

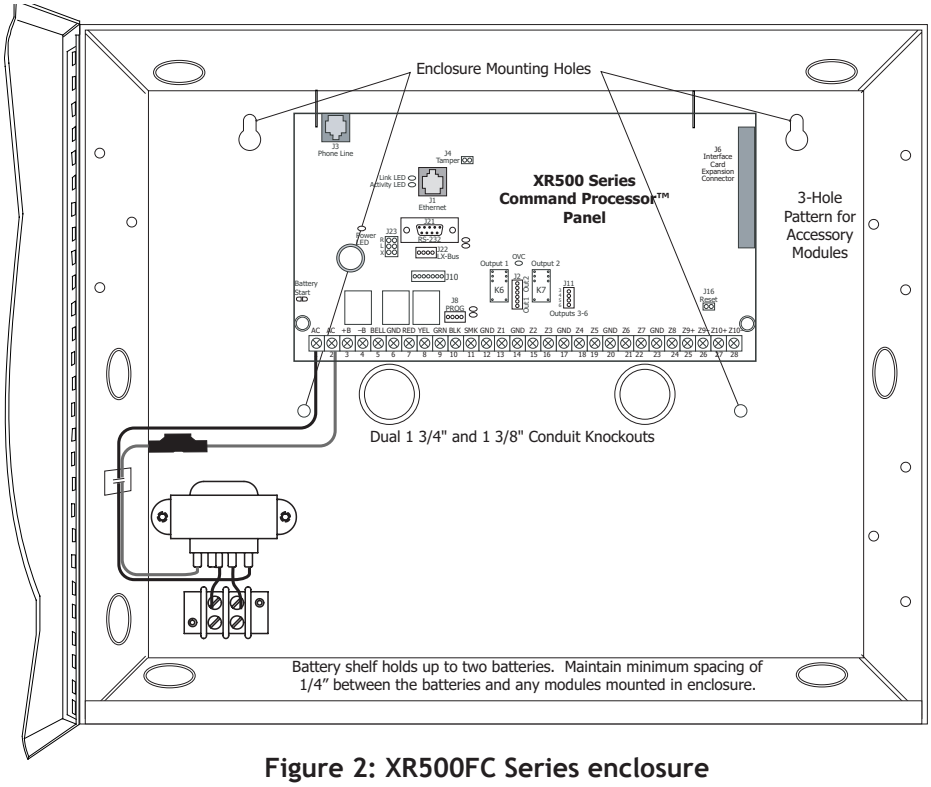


Figure 2: XR500FC Series enclosure

4.2 Fire Command Center LCD Keyboard

A Fire Command Center LCD Keyboard has been factory installed on the XR500FC enclosure door. A keyswitch has also been installed and pre-wired to the left of the keyboard. The user can turn the keyswitch to enable the four function keys without opening the enclosure door.

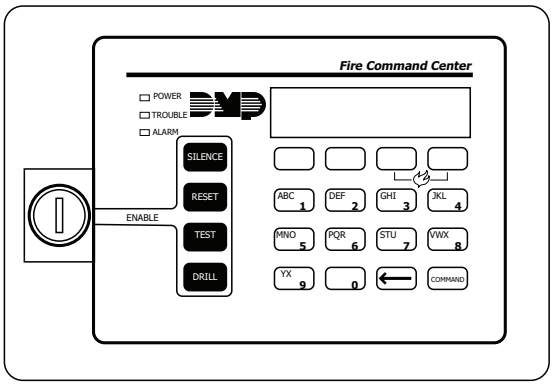


Figure 3: Fire Command Center LCD and Keyboard

4.3 Connection

The display and keyboard are factory pre-wired to the XR500FC panel J8-header. For standby battery calculations, the display draws 92mA of current in normal standby or alarm condition. See Panel Standby Battery Calculations. The keyswitch is pre-wired to the membrane keyboard.

4.4 Mounting Keypads and Zone Expansion Modules

DMP LCD keypads have removable covers that allow you to easily mount the keypad to a wall or other flat surface using the screw holes on each corner of the base. Before mounting the base, connect the keypad wire harness leads to the keypad cable from the panel and to any device wiring run to that location. Then attach the harness to the pin connector on the PC board, mount the base, and install the keypad cover making sure all of the keys extend through their respective holes.

For mounting keypads on solid walls, or for applications where conduit is required, use the Model 695 1-1/2" deep or the Model 696 1/2" deep backboxes.

The DMP 711, 712-8, 714, 715, 716, and 717 modules are each contained in molded plastic housings with removable covers. The base provides you with mounting holes for installing the unit to a wall, switch plate, or other surface.

4.5 Connecting LX-Bus and Keypad Bus Devices

Several factors determine the DMP LX-Bus™ and keypad bus performance characteristics: the wire length and gauge used, the number of devices connected, and the voltage at each device. When planning an LX-Bus™ and keypad bus installation, keep in mind the following information:

1. DMP recommends using 18 or 22-gauge **unshielded** wire for all keypad and LX-Bus circuits. **Do not** use twisted pair or shielded wire for LX-Bus and keypad bus data circuits.
2. On keypad bus circuits, to maintain auxiliary power integrity when using 22-gauge wire do not exceed 500 feet. When using 18-gauge wire do not exceed 1,000 feet. To increase the wire length or to add devices, install an additional power supply that is listed for Fire Protective Signaling, power limited, and regulated (12 Vdc nominal) with battery backup.
   Note: Each panel allows a specific number of supervised keypads. Add additional keypads in the unsupervised mode. Refer to the panel installation guide for the specific number of supervised keypads allowed.
3. Maximum distance for any one bus circuit (length of wire) is 2,500 feet regardless of the wire gauge. This distance can be in the form of one long wire run or multiple branches with all wiring totaling no more than 2,500 feet. As wire distance from the panel increases, DC voltage on the wire decreases. Maximum number of LX-Bus devices on the first 2,500 foot circuit is 40 devices.
4. Maximum voltage drop between the panel (or auxiliary power supply) and any device is 2.0 Vdc. If the voltage at any device is less than the required level, add an auxiliary power supply at the end of the circuit. When voltage is too low, the devices cannot operate properly.

For additional information refer to the LX-Bus/Keypad Bus Wiring Application Note (LT-2031).

Expansion Interface Cards (Models 481, 462N, 462P, 463C, 464-263C and 464-263H)

The LX-Bus provided on these cards requires only a 4-wire cable between the card and any devices connected to the bus. You can connect devices (zone or output expansion modules) together on the same cable or provide separate runs back to the card. Each LX-Bus provides up to 100 zones or outputs.

Primary Power Supply

5.1 Transformers and AC Power Connection

The AC connection should be completed by a licensed electrician.

Never share the Fire Alarm Control Panel circuit with any other equipment.

The XR500FC panel comes supplied with a 16 Vac 56 VA transformer. The 16 Vac transformer must be wired to a dedicated unswitched 120 Vac 60 Hz circuit with at least .87A available.

Always ground the panel before applying power to any devices! Use 18 AWG or larger for all power connections. The panel must be properly grounded before connecting any devices or applying power. Proper grounding protects against Electrostatic Discharge (ESD) that can damage system components.

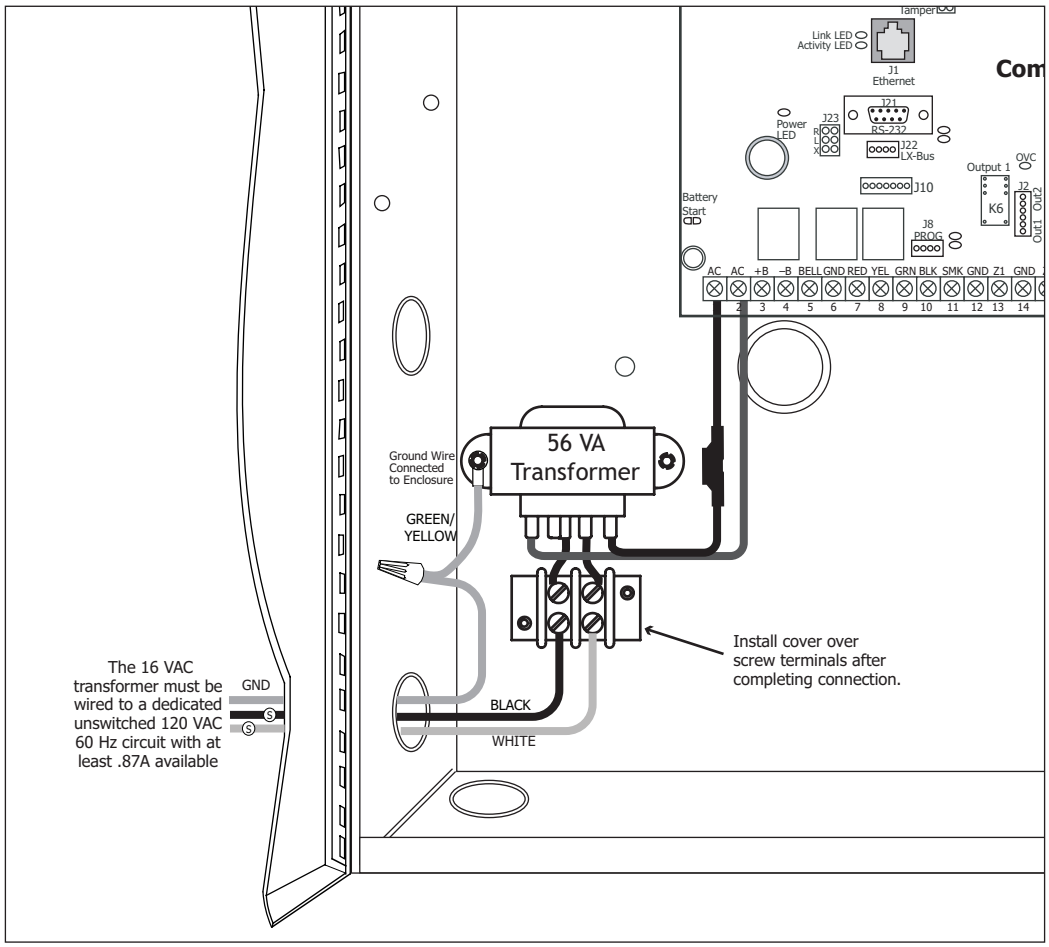


Figure 4: 56 VA Transformer Wiring

Secondary Power Supply

6.1 Battery Terminals 3 and 4

Connect the black battery lead to the negative battery terminal. The negative terminal connects to the enclosure ground internally through the XR500FC Series circuit board. Connect the red battery lead to the battery positive terminal. Observe polarity when connecting the battery.

You can add a second battery in parallel using the DMP Model 318 Dual Battery Harness. **DMP requires each battery be separated by a PTC in the battery harness wiring to protect each battery from a reversal or short within the circuit. See Figure 5.**

For listed installations, all batteries shall be installed in a DMP Model 341, 349, 350 or 352S enclosure and all wiring shall run through conduit. The enclosure shall be installed to the left of the XR500FC Series enclosure to ensure Battery and AC wire separation.

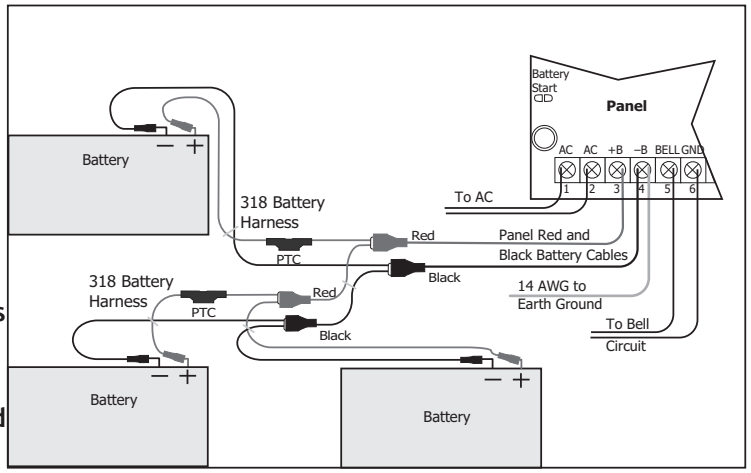


Figure 5: Wiring Multiple Batteries

Use sealed lead-acid batteries only: Use the DMP Model 365 (12 Vdc 9 Ah), Model 366 (12 Vdc 18 Ah), Model 368 (12 Vdc 5.0 Ah), or Model 369 (12 Vdc 7 Ah) sealed lead-acid rechargeable battery. Batteries supplied by DMP have been tested to ensure proper charging with DMP products.

GEL CELL BATTERIES CANNOT BE USED WITH THE XR500FC SERIES PANEL.

6.2 Earth Ground (GND)

To provide proper transient suppression, XR500FC Series panel terminal 4 must be connected to earth ground using 14 gauge or larger wire. DMP recommends connecting to a cold water pipe, ground rod, or building ground only. Do not connect to an electrical ground or conduit, sprinkler or gas pipes, or to a telephone company ground.

6.3 Battery Only Restart

When powering up the XR500FC Series panel without AC power, briefly short across the battery start pads to pull in the battery cutoff relay. The leads need a momentary short only. Once the relay has pulled in, the battery voltage holds it in that condition. If the XR500FC Series panel is powered up with an AC transformer, the battery cutoff relay is pulled in automatically. For more information refer to Figure 1.

6.4 Battery Replacement Period

DMP recommends replacing the battery every 3 to 5 years under normal use.

6.5 Discharge/Recharge

The XR500FC Series battery charging circuit float charges at 13.9 Vdc at a maximum current of 1.0 Amps using a 56 VA transformer. Listed below are the various battery voltage level conditions:

Battery Trouble:	Below	11.9 Vdc
Battery Cutoff:	Below	10.2 Vdc
Battery Restored:	Above	12.6 Vdc

6.6 Battery Supervision

The XR500FC Series tests the battery when AC power is present. The test is done every three minutes and lasts for five seconds. During the test, the panel places a load on the battery; if the battery voltage falls below 11.9 Vdc a low battery is detected. If AC power is not present, a low battery is detected any time the battery voltage falls below 11.9 Vdc.

If a low battery is detected with AC power present, the test repeats every two minutes until the battery charges above 12.6 Vdc indicating the battery has restored voltage. If a weak battery is replaced with a fully charged battery, the restored battery will not be detected until the next two minute test is completed.

6.7 Battery Cutoff

The panel disconnects the battery any time the battery voltage drops below 10.2 Vdc. This prevents battery deep discharge damage.

6.8 XR500FC Series Power Requirements

During AC power failure, the XR500FC Series panel and all connected auxiliary devices draw their power from the battery. All devices must be taken into consideration when calculating the battery standby capacity. The following table lists the XR500FC Series panel power requirements. You must add the additional current draw of keypads, zone expansion modules, smoke detector output, and any other auxiliary devices used in the system for the total current required. The total is then multiplied by the number of standby hours required to calculate the total ampere-hours required.

Standby Battery Power Calculations	Standby Current			Alarm Current		
XR500FC Series Control Panel	Qty 1	x	180mA 180 mA	Qty 1	x	180mA 180 mA
Relay Outputs 1-2 (ON)	Qty _____		30mA _____	Qty _____		30mA _____
Switch Grounds 3-6 (ON)	Qty _____		5mA _____	Qty _____		5mA _____
Active Zones 1-8	Qty _____		1.6mA _____	Qty _____		2mA* _____
Active Zones 9-10	Qty _____		4mA _____	Qty _____		30mA _____
2-Wire Smoke Detectors	Qty _____		0.1mA _____	Qty _____		0.1mA _____
Panel Bell Output						1500mA _____mA
893A Dual Phone Line Module	Qty _____	x	12mA _____	Qty _____	x	50mA _____
461 Interface Adaptor Card			7mA _____			7mA _____
462N Network Interface Card	Qty _____	x	50mA _____	Qty _____	x	50mA _____
462P Printer Interface Card	Qty _____	x	50mA _____	Qty _____	x	50mA _____
464-263C CDMA Cellular Communicator	Qty _____	x	15mA _____	Qty _____	x	48mA _____
464-263H HSPA+ Cellular Communicator	Qty _____	x	15mA _____	Qty _____	x	48mA _____
463C CDMA Cellular Communicator Card	Qty _____	x	22mA _____	Qty _____	x	22mA _____
481 Expansion Interface Card	Qty _____	x	15mA _____	Qty _____	x	15mA _____
1100X Wireless Receiver	Qty _____	x	46mA _____	Qty _____	x	46mA _____
1100XH Wireless High Power Receiver	Qty _____	x	160mA _____	Qty _____	x	160mA _____
860 Relay Output Module (one relay active)	Qty _____	x	34mA _____	Qty _____	x	34mA _____
All four relays active			138mA _____			138mA _____
865 Style Y or Z Notification Module	Qty _____	x	26mA _____	Qty _____	x	85mA _____
866 Style W Notification Module	Qty _____	x	45mA _____	Qty _____	x	76mA _____
867 LX-Bus Style W Notification Module	Qty _____	x	30mA _____	Qty _____	x	86mA _____
869 Dual Style D Initiating Module	Qty _____	x	25mA _____	Qty _____	x	75mA _____
630F Remote Fire Command Center	Qty _____	x	63mA _____	Qty _____	x	92mA _____
7060/7160 Thinline/7060A Aqualite Keypad	Qty _____	x	72mA _____	Qty _____	x	80mA _____
7063/7163 Thinline/7063A Aqualite Keypad	Qty _____	x	85mA _____	Qty _____	x	100mA _____
7070/7170 Thinline/7070A Aqualite Keypad	Qty _____	x	72mA _____	Qty _____	x	87mA _____
Active Zones (EOL Installed)			1.6mA _____	Qty _____	x	2mA* _____
7073/7173 Thinline/7073A Aqualite Keypad	Qty _____	x	85mA _____	Qty _____	x	100mA _____
Active Zones (EOL Installed)			1.6mA _____	Qty _____	x	2mA* _____
734 Wiegand Interface Module	Qty _____	x	15mA _____	Qty _____	x	15mA _____
Active Zones (EOL Installed)	Qty _____	x	1.6mA _____	Qty _____	x	2mA* _____
Annunciator (ON)				Qty _____	x	20mA _____
734N Wiegand Interface Module	Qty _____	x	146mA _____	Qty _____	x	148mA _____
Active Zones (EOL Installed)	Qty _____	x	1.6mA _____	Qty _____	x	2mA* _____
Annunciator (ON)				Qty _____	x	20mA _____
Wiegand Reader	Qty _____	x	200mA _____	Qty _____	x	200mA _____
Copy Sub-Totals to next page			Sub-Total Standby _____mA			Sub-Total Alarm _____mA

***Based on 10% of active zones in alarm.

Standby Battery Power Calculations	Standby Current	Alarm Current
736P POPIT Interface Module	Qty _____ x 25mA _____	Qty _____ x 25mA _____
Radionics Popex, POPITs, OctoPOPITs	Qty _____ x ___mA _____	Qty _____ x ___mA _____
738A Ademco Wireless Interface Module	Qty _____ x 75mA _____	Qty _____ x 75mA _____
710 Bus Splitter/Repeater Module	Qty _____ x 32mA _____	Qty _____ x 32mA _____
711 Zone Expansion Module	Qty _____ x 11mA _____	Qty _____ x 11mA _____
Active Zone (EOL Installed)	Qty _____ x 1.6mA _____	Qty _____ x 2mA* _____
714 Zone Expansion Module	Qty _____ x 7mA _____	Qty _____ x 7mA _____
Active Zones (EOL Installed)	Qty _____ x 1.6mA _____	Qty _____ x 2mA* _____
712-8 Zone Expansion Module	Qty _____ x 17mA _____	Qty _____ x 17mA _____
Active Zones (EOL Installed)	Qty _____ x 1.6mA _____	Qty _____ x 2mA* _____
714-8, 714-16 Zone Expansion Module	Qty _____ x 20mA _____	Qty _____ x 20mA _____
Active Zones (EOL Installed)	Qty _____ x 1.6mA _____	Qty _____ x 2mA* _____
715 Zone Expansion Module	Qty _____ x 7mA _____	Qty _____ x 7mA _____
Active Zones (EOL Installed)	Qty _____ x 4mA _____	Qty _____ x 30mA* _____
2-Wire Smokes	Qty _____ x .1mA _____	Qty _____ x .1mA _____
715-8, 715-16 Zone Expansion Modules	Qty _____ x 20mA _____	Qty _____ x 20mA _____
Active Zones (EOL Installed)	Qty _____ x 4mA _____	Qty _____ x 30mA* _____
2-Wire Smokes	Qty _____ x .1mA _____	Qty _____ x .1mA _____
716 Output Expansion Module	Qty _____ x 13mA _____	Qty _____ x 13mA _____
Active Form C Relays		Qty _____ x 12mA _____
717 Graphic Annunciator Module	Qty _____ x 10mA _____	Qty _____ x 10mA _____
Annunciator Outputs		Qty _____ x 1mA _____
521LX, 521LXT Smoke Detectors	Qty _____ x 8.8mA _____	Qty _____ x 28mA* _____
2W-BLX, 2WT-BLX Smoke Detectors	Qty _____ x 11mA _____	Qty _____ x 31mA* _____
COSMOD2W Module	Qty _____ x 45mA _____	Qty _____ x 174mA*# _____
COSMO-2W Smoke and CO Detectors	Qty _____ x 1mA _____	Qty _____ x 50mA*# _____
Aux. Powered Devices on Terminals 7 and 11	_____mA	_____mA
Other than Keypads and LX-Bus Modules		
Sub-Totals this page only	Sub-Total Standby _____mA	Sub-Total Alarm _____mA
Sub-Totals from previous page	Sub-Total Standby _____mA	Sub-Total Alarm _____mA
*Based on 10% of active zones in alarm	Total Standby _____mA	Total Alarm _____mA
# For systems that are not central station monitored, multiply alarm current by 12.		

Total Standby _____ mA x number of Standby Hours needed _____ = _____ mA-hours

Total Alarm _____ mA +_____ mA-hours

Total _____ mA-hours

X .001

= _____ Amp-hrs Required

Refer to section 6.9 for standby battery selection.

6.9 Standby Battery Selection

To choose the type and number of batteries needed for 24, 60, or 72 hours of standby power based on the Amp Hours Required calculation from section 6.8 XR500FC Series Power Requirements, perform the following:

1. Select the desired standby hours required from the table below: 24, 60, or 72 hours
2. Select the desired battery size: Model 368 (12 Vdc 5.0 Ah), Model 369 (12 Vdc 7 Ah), Model 365 (12 Vdc 9 Ah), Model 366 (12 Vdc 18 Ah).
3. Select a Max. Ah Available number that is just greater than the number calculated in Amp Hours Required.
4. Install the number of batteries shown in the corresponding No. of Batteries required column.

Example: If the Amp Hours Required calculation equals 22 Ah for 24 hours of standby time and 5.0 Ah batteries are desired, install six (6) Model 368 (12 Vdc, 5.0 Ah) batteries.

For listed installations, all batteries shall be installed in a DMP Model 341, 349, 350 or 352S enclosure and all wiring shall run through conduit. The enclosure shall be installed to the left of the XR500FC Series enclosure to ensure Battery and AC wire separation.

24 hours of standby power

5.0 Ah Batteries		7 Ah Batteries		7.7 Ah Batteries		9 Ah Batteries		18 Ah Batteries	
Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries
8	2	6	1	6	1	8	1	16	1
12	3	12	2	13	2	16	2	32	2
16	4	18	3	20	3	24	3	48	3
20	5	24	4	27	4	32	4		
24	6	31	5	34	5	40	5		
28	7	37	6	41	6				
32	8	43	7						
36	9								
40	10								

Note: 48 hours is the typical battery recharge time for any of the Number of Batteries shown in this section.

60 hours of standby power

7 Ah Batteries		7.7 Ah Batteries		9 Ah Batteries		18 Ah Batteries	
Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries
13	2	14	2	17	2	17	1
20	3	22	3	26	3	34	2
27	4	29	4	34	4	52	3
33	5	37	5	43	5	69	4
40	6	44	6	52	6		
47	7	52	7	61	7		
54	8	59	8	69	8		
60	9	67	9				
67	10						

Note: 48 hours is the typical battery recharge time for any of the Number of Batteries shown in this section.

72 hours of standby power

9 Ah Batteries		18 Ah Batteries	
Max. Ah Available	No. of Batteries	Max. Ah Available	No. of Batteries
16	2	16	1
25	3	33	2
33	4	50	3
42	5	67	4
50	6		
59	7		
67	8		

Note: 72 hours is the typical battery recharge time required for any of the Number of Batteries shown in this section.

Note: If the Amp Hours Required calculation is greater than any Max. Ah Available number shown on a table, then add power supply(s) to power some system devices allowing the Amp Hours Required calculation to be reduced. See the 710 Bus Splitter/Repeater Installation Guide (LT-0310).

Bell Output

7.1 Terminals 5 and 6

Terminal 5 supplies positive 12 Vdc to power alarm bells or horns. This output can be steady, pulsed, or temporal depending upon the Bell Action specified in Bell Options. Terminal 6 is the ground reference for the bell circuit. This supervised output detects 1k Ohms or less as normal. The indicating appliance can supply this resistance. If using a horn or siren, a 1k Ohm 1/2 W EOL resistor (provided) should be added across the bell circuit to provide supervision. See the Notification Appliance section for a list of approved notification appliances and the Wiring Diagrams for connections.

Keypad Bus

8.1 Description

XR500FC Series panel terminals 7, 8, 9, and 10 are for the keypad bus. You can connect up to fifteen supervised keypads and multiple unsupervised keypads to the XR500FC Series. In addition to DMP LCD keypads, you can also connect any combination of zone expansion modules to the data bus. Refer to the specific device installation sheet for the maximum number of Keypad Bus devices.

Refer to the section titled LX-Bus for complete information about the LX-Bus 4-pin header and expansion slot.

Note: Do not use shielded wire for LX-Bus/Keypad Bus circuits.

8.2 Terminal 7 - RED

This terminal supplies positive 12 Vdc Regulated to power DMP LCD keypads and zone expansion modules. Terminal 7 also supplies power for any auxiliary device. The ground reference for terminal 7 is terminal 10.

The output current is shared with the smoke power output on terminal 11 and Zones 9 and 10. Current draw for all connected devices must not exceed the panel maximum current rating. See Power Supply in the Compliance section for maximum current in a fire listed application.

8.3 Terminal 8 - YELLOW

Terminal 8 receives data from keypads and zone expansion modules. It cannot be used for any other purpose.

8.4 Terminal 9 - GREEN

Terminal 9 transmits data to keypads and zone expansion modules. It cannot be used for any other purpose.

8.5 Terminal 10 - BLACK

Terminal 10 is the ground reference for DMP LCD keypads, zone expansion modules, and all auxiliary devices being powered by terminal 7.

8.6 J8 Programming Connection

A 4-pin header (J8) is provided to connect a keypad when using a DMP Model 330 Programming Cable. This provides a quick and easy connection for panel programming.

You may also use the J8 Programming Header to connect Keypad Bus devices. This is an alternative to connecting keypad bus devices to terminals 7, 8, 9, and 10.

8.7 OVC LED

The Overcurrent LED (OVC) lights Red when the devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel is rated for. The OVC is located above Outputs 1 and 2 on the panel and turns a steady Red when lit. When the OVC LED lights Red, the LX-Bus(es) and Keypad bus are shut down.

Smoke and Glassbreak Detector Output

9.1 Terminals 11 and 12

Terminal 11 supplies positive 12 Vdc Regulated to power 4-wire smoke detectors and other powered devices. This output can be turned off by the user for 5 seconds using the Sensor Reset User Menu option to allow latched devices to reset. Terminal 12 is the ground reference for terminal 11.

9.2 Current Rating

The Output current from terminal 11 is shared with terminals 7, 25, and 27.

The total current draw of all devices powered from the panel must be included with terminal 11 calculations and must not exceed the maximum output rating.

Protection Zones

10.1 Terminals 13–24

Zones 1 to 8 (terminals 13 to 24) on the XR500FC Series panel are all grounded burglary zones. For programming purposes, the zone numbers are 1 through 8. Listed below are terminal 13 to 24 connection functions.

Terminal	Function	Terminal	Function
13	Zone 1 voltage sensing	19	Zone 5 voltage sensing
14	Ground for Zones 1 and 2	20	Ground for Zones 5 and 6
15	Zone 2 voltage sensing	21	Zone 6 voltage sensing
16	Zone 3 voltage sensing	22	Zone 7 voltage sensing
17	Ground for Zones 3 and 4	23	Ground for Zones 7 and 8
18	Zone 4 voltage sensing	24	Zone 8 voltage sensing

The voltage sensing terminal measures the voltage across a 1k Ohm End-of-Line resistor to ground. Use DMP Model 311 1k Ohm resistors. Dry contact sensing devices can be used in series (normally-closed) or in parallel (normally-open) with any of the burglary protection zones.

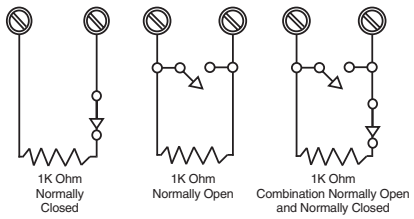


Figure 6: Protection Zone Wiring

10.2 Operational Parameters

Each protection zone detects three conditions: Open, Normal, and Short. Listed below are voltage and resistance parameters for each condition:

Condition	Resistance on zone	Voltage on positive terminal
Open	over 1300 ohms	over 2.0 Vdc
Normal	600 to 1300 ohms	1.2 to 2.0 Vdc
Short	under 600 ohms	under 1.2 Vdc

10.3 Zone Response Time

A condition must be present on a zone for 500 milliseconds before it is detected by the XR500FC Series panel. Ensure detection devices used on the protection zones are rated for use with this delay. Zones 1-10 can also be programmed for a fast response delay of 160 milliseconds.

10.4 Keyswitch Arming Zone

Using a keyswitch on an Arming type zone allows you to arm and disarm selected areas without having to enter a user code.

Powered Zones for 2-Wire Smoke Detectors

11.1 Terminals 25–26 and 27–28

Panel terminals 25 through 28 provide two resettable Class B, Style A, 2-wire powered zones. For programming purposes the zone numbers are 9 and 10.

Note: The maximum wire length for either zone 9 or zone 10 is 3000 feet using 18 AWG or 1000 feet using 22 AWG. The maximum voltage is 14 Vdc and the maximum normal standby current is 1.25mA DC. The maximum line impedance is 100 Ohms. The maximum short circuit current is 56mA.
When using all other zone expansion modules, use listed Model 309 EOL resistors. The compatibility identifier for the zones is A.

Note: Do not mix detectors from different manufacturers on the same zone.

Caution: Performing a Sensor Reset momentarily drops power to the devices on Terminal 11 (SMK), Zones 9 and 10. The panel views these zones (9 and 10) as "Open" while the power is absent.

11.2 Compatible 2-Wire Smoke Detector Chart

Manufacturer	Model	Detector ID	Base	Base ID	DC Voltage Range	# of Detectors (12V/24V)	Zone Expansion Modules	Panel Zones
Hochiki	SLR-835B-2 SLR-835BH-2	HD-6	N/A		8-35	14	715, 715-8, 715-16	9 & 10
EST	521B, 521BXT, 521NB, 521NBXT	S09A			6.5-20	12	715, 715-8, 715-16	9 & 10
System Sensor	2W-B, 2WT-B	A			8.5-35	10	715, 715-8, 715-16	9 & 10
System Sensor	2WTA-B	A	(*)		8.5-35	12	715, 715-8, 715-16	9 & 10
System Sensor	2WTR-B	A	(*)		8.5-35	1	715, 715-8, 715-16	9 & 10
System Sensor	1151, 2151	A	B110PL, B401		8.5-35	10	715, 715-8, 715-16	9 & 10
System Sensor	COSMO-2W (using COSMOD2W)	A			8.5-35	12	714, 714-8, 714-16, 715, 715-8, 715-16	1-10

(*) = Must be used in conjunction with System Sensor Polarity Reversal Module model RRS-M0D.

Figure 7: Compatible 2-Wire Smoke Detectors

Dry Contact Relay Outputs

12.1 Description

The XR500FC Series panel provides two programmable auxiliary SPDT relays when equipped with two DMP Model 305 relays in sockets K6 (Output 1) and K7 (Output 2) and a Model 431 Output Harness on the J2 6-pin Header. Each relay provides one SPDT set of contacts that can be operated by any of the functions listed below:

1) Activation by zone condition: Steady, Pulsing, Momentary, and Follow
2) Activation by 24-hour 7-day schedule: One on and one off time a day for each relay
3) Manual activation from the DMP LCD keypad menu
4) Communication failure
5) Armed area annunciation
6) Fire Alarm, Fire Trouble or Supervisory
7) Ambush Alarm
8) Exit and Entry timers
9) System Ready
10) Late to Close

Refer to the XR500 Series Programming Guide (LT-0679) for specific information.

12.2 Contact Rating

The Model 305 relay contacts are rated for 1 Amp at 30 Vdc (allows .35 power factor). You can connect auxiliary power to the Relay Output 1 common terminal by installing the gray harness wire to terminal 7. Current draw for all connected devices must not exceed the panel maximum current rating.

12.3 Model 431 Output Harness Wiring

The relay contacts are accessible by installing the DMP 431 Output Harness on the 6-pin header labeled J2. Output 2 uses the top three prongs, and Output 1 uses the bottom three prongs. The wire harness and contact locations are shown below:

Contact	Color
Output 1 normally closed	Violet
Output 1 common	Gray
Output 1 normally open	Orange
Output 2 normally closed	Violet with white stripe
Output 2 common	White with gray stripe
Output 2 normally open	Orange with white stripe

The relay contacts must be connected to devices located within the same room as the XR500FC Series panel.

Annunciator Outputs

13.1 Description

The four programmable annunciator outputs can be programmed to indicate the activity of the panel zones or conditions occurring on the system. Annunciator **outputs do not provide a voltage but instead switch-to-ground** a voltage from another source. The outputs can respond to any of the conditions listed in the Description section for Dry Contact Relays. Maximum voltage is 30 Vdc @ 50mA.

13.2 Model 300 Harness Wiring

Access the open collector outputs by installing DMP 300 Harness on the 4-pin header labeled J11. The output locations are shown below. For listed applications, devices connected to the outputs must be located within the same room as the panel.

Output	Color	Wire	Output	Color	Wire
3	Red	1	5	Green	3
4	Yellow	2	6	Black	4

13.3 Model 860 Relay Module

Connect a Model 860 Relay Module to the J11 on the XR500FC Series panel to provide relays for outputs 3-6. Use these relays for electrical isolation between the alarm panel and other systems or for switching voltage to control various functions. Power is supplied to the relay coils from a single wire connected to the panel auxiliary power terminal 7. The module includes one relay and provides three additional sockets for expansion of up to four relays. Mount the 860 inside the panel enclosure using the 3-hole pattern and plastic standoffs. Refer to the 860 Module Install Sheet (LT-0484) as needed.

Relay Contact Rating: 1 Amp at 30 Vdc (allows .35 power factor)

J23 6-Pin Header

14.1 Description

The XR500FC Series Command Processor™ panel supports RS-232, LX-Bus, and DMP Wireless operation. Only one operation can function at a time. Install a jumper on one pair of J23 headers to indicate how the panel is programmed to operate. Refer to the table below when installing a jumper on J23. When a jumper is installed or moved on the 6-pin header, briefly reset the panel using the J16 jumper to activate the selected operation.

Note: Only one operation, RS-232, LX-Bus, or DMP Wireless can function at a time.

J23 6-Pin Header	
Letter	**Operation**
R	Standard RS-232
L	LX-Bus
X	1100 Series DMP Wireless

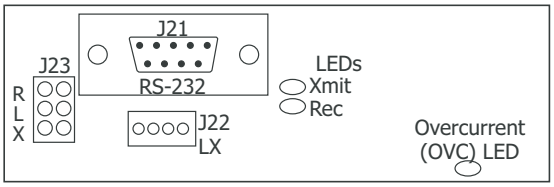


Figure 8: J23 6-Pin Header

J22 LX-Bus Expansion Connector

15.1 Description

The XR500FC Series Command Processor™ Panel supports up to 500 wireless bus zones or up to five LX-Bus circuits. Each Interface card LX-Bus circuit provides 100 expansion zones. The maximum number of LX-Bus zones available on a fully populated panel is 500. Use LX-Bus J22 Header for 100 zones. Install a single Interface Card Connector on the board to support 100 additional zones for a total of 200 zones. To install up to five Interface Cards install a Model 461 Interface Adaptor Card.

15.2 J22 LX-Bus Header

Note: Only one connector, J21 or J22 can function at a time. Either use J21 to connect a serial device for PC Log Reporting, or use J22 to connect an LX-Bus or DMP Wireless device. Operation is determined by where you install the jumper on the J23 6-Pin header. See the Connecting LX-Bus and Keypad Bus Devices section for maximum wiring distances.

For each connection, respect wire colors when connecting devices and use all four wires. After placing the jumper on the J23 6-Pin header to enable the required operation, briefly reset the panel using the J16 jumper to activate operation.

Wireless Bus Operation: Place a jumper on the two pins next to the letter "X" on the J23 6-Pin header. When using J22 as a wireless bus, connect a DMP Model 300 4-wire Harness to the J22 4-pin header labeled LX. Connect the other end to the J3 header on the 1100X or 1100XH Wireless Receiver. This provides up to 500 wireless zones numbered 500 to 999. Refer to the 1100X Wireless Receiver Install Guide (LT-0708) or the 1100XH Wireless Receiver Install Guide (LT-0970) .

LX-Bus Operation: Place a jumper on the two pins next to the letter "L" on the J23 6-Pin header. When using J22 as an LX-Bus, connect a DMP Model 300 4-wire Harness to the J22 4-pin header labeled LX. This provides the first 100 LX-Bus zones numbered 500-599. No LX-Bus Interface Card is required.

Note: Do NOT use shielded wire when using the J22 LX-Bus Header.

RS-232 Operation: Place a jumper on the two pins next to the letter "R" on the J23 6-Pin header and refer to J21 Serial Connector.

15.3 LX-Bus Interface Cards

You can add one Interface Card (Model 481, 462N, 462P, 463C, 464-263C, or 464-263H) to the XR500FC Series using J6 Interface Card Connector located on the board right edge. To add more than one Interface Card install a 461 Interface Adaptor Card using J6 Interface Card Connector on the board right edge. The 461 Adaptor Card allows up to five Interface Cards to be installed. Refer to the 461 Installation Sheet (LT-0736). Each Interface card provides up to 100 LX-Bus Zones. Refer to the following tables to identify zone locations and numbers relative to J22 operation.

J22 LX-Bus Enabled (Set J23 to "L")			One Interface Card			461 Adaptor Card and Multiple Interface Cards	
LX-Bus	Zone Numbers	AND	LX-Bus	Zone Numbers	OR	LX-Bus	Zone Numbers
1	500-599		2	600-699		2 (A)	600-699
						3 (B)	700-799
						4 (C)	800-899
						5 (D)	900-999

J22 LX-Bus NOT Enabled (J23 NOT set to "L")	One Interface Card		OR	461 Adaptor Card and Multiple Interface Cards	
	LX-Bus	Zone Numbers		LX-Bus	Zone Numbers
	1	500-599		1 (A)	500-599
				2 (B)	600-699
				3 (C)	700-799
				4 (D)	800-899
				5 (E)	900-999

15.4 LX-Bus LEDs

The two LEDs, located near the bottom-right corner of J21 indicate data transmission and receipt. The top LED flashes green to indicate the panel is transmitting LX-Bus data. The bottom LED flashes yellow to indicate the panel is receiving LX-Bus data.

15.5 OVC LED

The Overcurrent LED (OVC) lights Red when the devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel rating. The OVC is located above Outputs 1 and 2 on the panel and turns a steady Red when lit. When the OVC LED lights Red, the LX-Bus(es) and Keypad bus shut down.

J21 Serial Connector

16.1 Description

Note: Only one connector, J21 or J22 can function at a time. Either use J21 to connect a serial device for PC Log Reporting, or use J22 to connect a DMP Wireless device or an LX-Bus device. Operation is determined by where you install the jumper on the J23 6-Pin header. The maximum line impedance is 100 Ohms.

To enable J21 to operate in RS-232 mode, place a jumper on the two pins next to the letter "R" on the J23 6-Pin header and briefly reset the panel using the J16 jumper to activate the selected operation. Panel programming using Remote Link™ can be set up through a direct connection to a computer. The Serial Connector allows the following operation options.

XR500 Panel	XR500N/XR500E Panel
PC Log Reports	PC Log Reports
Remote Link™ Programming	

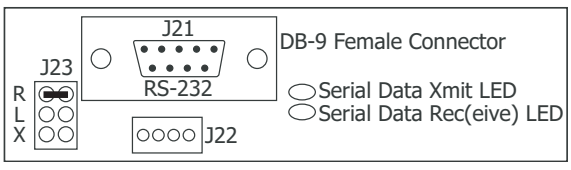


Figure 8: J21 Serial Connection

16.2 Computer Connection to J21

Use a straight through RS-232 Serial cable with a DB-9 female connector on one end and a DB-9 male connector on the other end. Plug the DB-9 male connector end of the cable onto the XR500FC Series panel J21 RS-232 connector. Plug the DB-9 female connector end of the cable onto the DB-9 male connector located at the back of the computer. Program the XR500FC Series panel as needed then disconnect the computer.

16.3 Serial Connector LEDs

The two LEDs, located near the bottom-right corner of J21 indicate data transmission and receipt. The top LED flashes green to indicate the panel is transmitting serial data. The bottom LED flashes yellow to indicate the panel is receiving serial data.

J1 Ethernet Connector (XR500NFC only)

17.1 Description

The J1 Ethernet Connector is available on the XR500NFC Network version to connect directly to an Ethernet network using a standard patch cable. The maximum impedance is 100 Ohms.

17.2 Ethernet LEDs

The two LEDs, located to the left of J1 Ethernet Connector, indicate network connection. The top, Link LED lights up green to indicate a valid receive connection from the host network. The bottom, Activity LED flashes yellow to indicate messages are being sent and received.

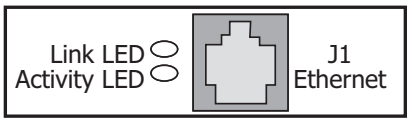


Figure 9: J1 Header and LEDs

J3 Telephone RJ Connector

18.1 Description

Connect the panel to the public telephone network by installing a DMP 356 RJ Cable between the panel J3 connector and the RJ31X or RJ38X phone block. The maximum impedance is 100 Ohms. **CAUTION -** To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord, such as DMP Model 356 Series Phone Cords.

18.2 J10 893A Connector

Connect an 893A Dual Phone Line Module to J10 on the XR500FC Series. Refer to the 893A Installation Sheet (LT-0135) for complete information.

18.3 Notification

The user must not repair registered terminal equipment. In case of trouble, immediately unplug the device from the telephone jack. The factory warranty provides for repairs. Registered terminal equipment may not be used on party lines or in connection with coin telephones. Notify the telephone company with the following information:

a. The particular line(s) where the service is connected
b. The FCC registration number as listed
c. The ringer equivalence
d. The device make, model, and serial number

18.4 Phone Line Monitor

The XR500FC Series panel has a built-in telephone monitor that monitors the phone line voltage to verify the connection to the central office. Figure 10 and the table below identify the phone block pin layout, wire numbers, and colors.

Wire Number	Wire Color
1	Gray
2	Orange
3	Black
4	Red
5	Green
6	Yellow
7	Blue
8	Brown

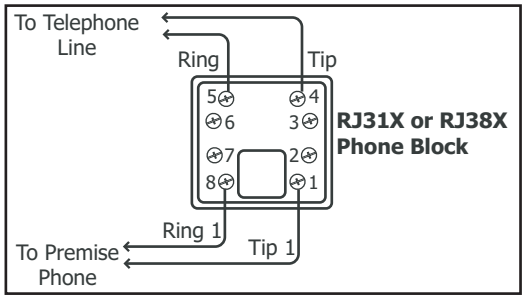


Figure 11: Phone Jack Wiring

The wires on the RJ31 that feed pins 4 and 5 should be the ONLY wires on the D-marc. All other house phone wiring should be tied to pins 1 and 8 coming back from the RJ31.

Dial tone must come into RJ31X on pins 4 and 5 and go back to house phones from pins 1 and 8. Follow these steps to determine if panel is seizing the line:

1. Unplug phone cord from RJ31X
2. Place butt-set on pins 4 and 5
3. Listen for dial tone. With dial tone present, lift either wire from pins 1 or 8
4. Listen for dial tone again. If the dial tone is present, RJ31X wiring is correct. If no dial tone is present, the RJ31X wiring is backwards. Rewire so dial tone is coming IN on 4 and 5.

If you still have trouble with the phone line, you may need to replace the RJ cord. If the dial tone is still not present, swap out the RJ31X phone block.

18.5 FCC Registration

The Model XR500FC Series complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the outside of the enclosure of this equipment is a label that contains, among other information, a product identifier in the format US:CCKAL00BXR500. If requested this number must be provided to the telephone company.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. See installation instructions for details.

The Ringer Equivalence Number (REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

If the XR500FC Series 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 operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with the Model XR500FC Series, for repair or warranty information, please contact DMP at the address and telephone number listed on the back of this document. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

If your premises has specially wired alarm equipment connected to the telephone line, ensure the installation of the XR500FC Series does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

Caution: To ensure proper operation, this equipment must be installed according to the installation instructions in this manual. To verify that the equipment is operating properly and can successfully report an alarm, this equipment must be tested immediately after installation, and periodically thereafter, according to the test instructions in this document and the XR500 Series Programming Guide (LT-0679). Additionally, verification of Line Seize capability should be made immediately after installation, and periodically thereafter, in order to ensure that this equipment can initiate a call even when other equipment (telephone, answering system, computer modem, etc.) connected to the same line is in use.

Reset and Tamper Headers

19.1 J16 Reset Header

The reset header is located just above the terminal strip on the right side of the circuit board and is used to reset the XR500FC Series microprocessor. To reset the panel when first installing the system, install the reset jumper before applying power to the panel. After connecting the AC and battery, remove the reset jumper.

To reset the panel while the system is operational, for example, prior to reprogramming, install the reset jumper without powering down the system. Remove the reset jumper after one or two seconds.

After resetting the panel, begin programming within 30 minutes. If you wait longer than 30 minutes, you must reset the panel again.

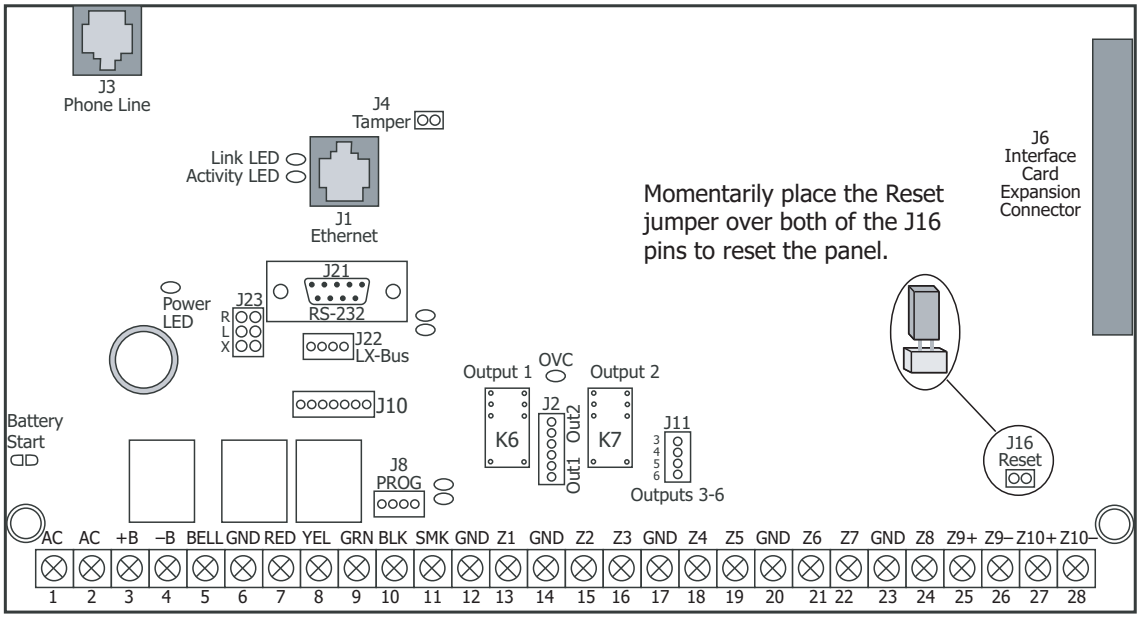


Figure 11: XR500FC Series Panel Showing the Reset Jumper

19.2 J4 Tamper Header

The J4 header is for use with the optional DMP 306 Tamper Harness. The harness connects to one or more tamper switches mounted inside the panel enclosure to supervise against unauthorized enclosure opening or removal. Refer to the wiring diagram on the enclosure door for correct tamper switch wiring.

How the Tamper Works

If the enclosure is opened or removed while one or more of the system areas are armed, a panel tamper alarm is indicated. If all areas are disarmed, a panel tamper trouble is indicated.

Listed Compliance Specifications

20.1 Introduction

For applications that must conform to a local authorities installation standard or a National Recognized Testing Laboratory certificated system, please see the following sections.

Universal Burglary Specifications

21.1 Introduction

The programming and installation specifications contained in this section must be completed when installing the XR500FC Series panel in accordance with any of the burglary standards. Additional specifications may be required by a particular standard. See the XR500 Series Programming Guide (LT-0679).

21.2 Wiring

All wiring must be in accordance with NEC, ANSI/NFPA 70, ANSI/UL 681, and ANSI/UL 827 for all burglary installations. All transformer wires must be installed in conduit.

21.3 Control Outside of Protected Area

A Potter EVD or Sentrol 5402 should be used in place of a lined cabinet when the panel is installed outside of the protected area. Front and rear tamper switches are required. Refer to the system wiring diagram.

21.4 Digital Dialer

The digital dialer cannot be used for listed commercial burglary installations.

21.5 Bypass Reports

The Bypass Reports option must be programmed as YES for all listed burglary applications.

21.6 System Maintenance

To ensure continuous satisfactory operation of any alarm system, proper installation and regular maintenance by the installing alarm company and frequent testing by the end user is essential. Offering a maintenance program and acquainting the user with the correct procedures for system use and testing is also the responsibility of the installing alarm company.

21.7 Listed Receivers

Operation has been verified with the DMP SCS-VR and SCS-1R receivers and any Central Station Receiver that accepts industry standard Contact ID (DTMF) format. It is the installer's responsibility to verify compatibility between the panel and the receiver used during installation. The installer shall verify the compatibility of the receiver and the system on a yearly basis.

21.8 Wireless Tamper

The Zone Information Disarmed Open Message to Transmit must be programmed Trouble (T).

21.19 Wireless External Contact

When used, the External Contact of 1101 or 1102 must be programmed Normally Closed.

21.10 Wireless Supervision Time

The Zone Information Supervision Time cannot be set to 0 (zero).

21.11 Detect Wireless Jamming

The Detect Wireless Jamming option must be programmed YES.

21.12 Bell Output

The panel bell output cannot be used for annunciation in a listed commercial burglary installation.

Area Information

22.1 Ownership
The control unit system shall be under one ownership.

22.2 Annunciation
The System shall be installed so that when arming any area from any keypad, the local bell shall annunciate.

22.3 Trouble Display
The Status List programming shall be set to annunciate all trouble messages at all keypads.

22.4 Closing Wait
The Closing Wait option must be programmed YES.

Central-Station and Proprietary Burglar-Alarm Units ANSI/UL 1610 AND ANSI/UL 1076

23.1 Opening/Closing Reports
The Opening/Closing Reports option must be programmed as YES.

23.2 Closing Wait
The Closing Wait option must be programmed YES.

23.3 Entry Delay
The maximum entry delay used must not be more than 60 seconds.

23.4 Exit Delay
The maximum exit delay used must not be more than 60 seconds.

23.5 Proprietary Dialer
The Model XR500FC Series provides proprietary service when configured as a digital dialer.

23.6 Standard Line Security
Standard Line Security is provided when configured as a Path 1 NET system using an XR500NFC panel. The NET Check-in time must be set to 03 minutes. When programmed for Standard Line Security, Exit Time Restart is disabled. When the check-in time is set to a number less than 200 seconds, an attack resistant enclosure is not required.

The XR500FC Series Protected Premises Control Unit is suitable for Standard Line Security service when configured for NET communication with SCS-1R receiving system. This configuration is approved for the following:

AMCX - Central Station Alarm Units
APOU - Proprietary Alarm Units

23.7 Wireless Audible Annunciation Option
The Wireless Audible option must be selected as ANY for commercial applications.

23.8 CELL Only, Standard Line Security
Standard Line Security is provided when programmed using the 463C, 464-263C or 464-263H for CELL with no backup. XR500 cellular communication is used as primary with a 3 minute check-in when armed or disarmed.

Path 1 programming	
Comm Type: = CELL	Checkin: = 3 minute
Path Type: = Primary	Fail Time: = 3 minute
Encrypt: = NO	Test Rpt: = NO
Sub Code: = NO or YES	

Holdup Alarm Units
ANSI/UL 636

24.1 ANSI/UL 1610 Required
The programming and installation specifications contained in this section must be completed in addition to ANSI/UL 1610 Specifications when installing a Model 1142 with a Model XR500FC Series panel.

24.2 1100X/1100XH Wireless Receiver
The Model 1100X/1100XH Wireless Receiver in conjunction with the Model 1142 Holdup Alarm Transmitter must be installed in the system.

24.3 Wireless Supervision Time
The Zone Information Supervision Time must be a maximum of 240 minutes.

24.4 LED Display
The LED Operation option display must be set to NO when using a Model 1142 Holdup Alarm Transmitter.

24.5 Jamming Detection
The Detect Wireless Jamming option must be set to YES.

24.6 Local Alarm
The Bell Action for a PN (Panic) type zone must be programmed as N (None).

24.7 Message to Transmit
The Armed Open and Armed Short messages for a PN (Panic) type zone must be programmed to A (Alarm).

24.8 Wireless Audible Annunciation Option
The Wireless Audible option must be selected as ANY for commercial applications.

Access Control System Units
ANSI/UL 294

25.1 Panel Designation
The XR500FC Series panels are designated stand alone units.

25.2 Tamper Protection
For listed Access Control installations, a tamper switch must be used.

25.3 Compatible Devices
The following devices are compatible with the XR500FC Series panels.

Access Control	
734/734N/734N-WIFI***** Wiegand Interface Module	Proximity reader connector
OP-08CB Motion Detector	Infrared sensor
PB-2 REX Button*	Exit control push button
PP-6005B Proxpoint Plus® Reader	Proximity reader
MP-5365 Miniprox® Reader	Slimline proximity reader
PR-5455 ProxPro® II Reader	Long range reader with sounder
MX-5375 Maxi-Prox™ Reader	Long range reader compatible with 1351 Prox Pass
*** This device has not been investigated and shall not be used in listed installations.**	

Universal Fire Alarm Specifications

26.1 Introduction
The programming and installation specifications contained in this section must be completed when installing the Model XR500FC Series in accordance with any of the ANSI/UL or NFPA fire standards. Additional specifications may be required by a particular standard. See the XR500 Series Programming Guide (LT-0679).

26.2 Wiring
All wiring must be in accordance with NEC, ANSI/NFPA 70.

26.3 Transformer
Use the factory installed 56 VA wire-in transformer.

26.4 End-of-Line Resistor
The DMP Model 310 1k Ohm EOL resistor should be used on all 1k Ohm EOL fire zones.

26.5 System Trouble Display
The Status List Display must include at least one keypad that displays system monitor troubles.

26.6 Fire Display
The Status List Display must include at least one keypad that displays troubles and alarms on fire type zones.

26.7 Police Station Phone Number
The digital dialer telephone number programmed for communication must not be a police station phone number, unless that phone number is specifically provided for that purpose.

26.8 System Maintenance
To ensure continuous satisfactory operation of any alarm system, proper installation and regular maintenance by the installing alarm company and frequent testing by the end user is essential. Offering a maintenance program and acquainting the user with the correct procedures for system use and testing is also the responsibility of the installing alarm company.

26.9 Audible Alarm
Fire Type zones must be programmed to activate an audible alarm. The Bell Action for Fire Type zones must not be programmed as N (None).

26.10 Fire Zone Programming
If a retard delay is used on a waterflow zone, it cannot exceed 90 seconds and any retard delay in the waterflow initiating devices must be subtracted from the 90 seconds allowed. The retard delay should not be used on a zone with smoke detectors.

26.11 Class A Style D Zones
If required, the DMP 869 Dual Style D Initiating Module provides for connection of two Class A Style D zones to the Model XR500FC Series. See the 869 Installation Guide (LT-0186) and this guide for wiring information.

26.12 Listed Receivers
Operation has been verified with the DMP SCS-VR and SCS-1R receivers and any Central Station Receiver that accepts industry standard Contact ID (DTMF) format. It is the installer's responsibility to verify compatibility between the panel and the receiver used during installation. The installer shall verify the compatibility of the receiver and the system on a yearly basis.

Control Units for Fire-Protective Signaling Systems ANSI/UL 864, NFPA 72

27.1 Power Supply

For listed installations, the total current combined from Auxiliary and Bell Power cannot exceed:

1.2 Amps with a 56 VA transformer; .5 Amp Max for Auxiliary Power and .7 Amp Max for Bell

For listed installations, the 50 VA Plug-in transformer cannot be used.

The total combined current from Terminals 7, 11, 25, and 27 cannot exceed 1.2 Amps.

27.2 Zone Restoral Reports

The Restoral Reports option must be selected as YES or Disarm.

27.3 Power Fail Delay

The Power Fail Delay option must be selected as required by the service of the panel. For Central Station or Remote Station service: 1.

27.4 Sprinkler Supervisory

Any zone used for sprinkler supervisory must be programmed with "SPRINKLR XXX" as the zone name. The last three characters in the zone name may be assigned a number to identify the zone. The Model 893A Dual Phone Line Module must be used on all sprinkler supervisory systems.

27.5 DACT Systems

A DACT system may be configured as one of the following:

Path 1 Type DD Primary and Path 2 Type DD Backup

Path 1 Type DD Primary and Path 2 Type CELL Backup

Path 1 Type DD Primary and Path 2 Type NET Backup

Path 1 Type DD Primary and Path 2 Type DD Backup

Use two telephone lines and the Model 893A Dual Phone Line Module to provide two phone line connections to the system. Two different telephone numbers must be programmed for digital communication. Do not connect to ground start or party lines.

Path 1 Programming	Path 2 Programming
Comm Type = DD	Comm Type = DD
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
893A = Yes	

Path 1 Type DD Primary and Path 2 Type CELL Backup

When using a telephone line and cellular as backup,

Path 1 Programming	Path 2 Programming
Comm Type = DD	Comm Type = CELL
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
	Receiver IP Address
	First GPRS APN

Path 1 Type DD Primary and Path 2 Type NET Backup

When using a telephone line and a Network IP as backup,

Path 1 Programming	Path 2 Programming
Comm Type = DD	Comm Type = NET
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
	Receiver IP Address

27.6 Local Protective Signaling Systems

The DMP Model 865, 866, or 867 Notification Circuit Module must be used on the bell circuit for detection of shorts and grounds. Any burglary or other off premises communication must be done with the Model 893A Dual Phone Line Module. For local commercial fire installations, the 893A is required.

27.7 Remote Station Protective Signaling Systems

You must provide 60 hours of standby battery. See section 6.9 in this guide for standby battery calculations. Two Radionics Model D127 Reversing Relay Modules provide two reversing polarity telephone connections. See the D127 Installation Instruction sheet for wiring details. A DMP Model 893A is used to provide two line dialer communication.

27.8 Fire Protective Signaling Systems using Internet/Intranet/Cell Networks

An Other Transmission Technologies system as defined in UL 864 9th Edition, Section 40.7 may be configured as NET Primary using a hardwire IP network or CELL Primary using a Model 463C CDMA Cellular Communicator with or without a backup path. The system may be configured as one of the following:

Path 1 Type NET or CELL Primary with no Backup

Path 1 Programming	
Comm Type = NET or CELL	Checkin Min = 5
Path Type = Primary	Failtime Min = 5
Test Rpt = No	Sub Code = Yes
Checkin = Yes	Send Comm Trbl = Yes

Path 1 Type NET Primary and Path 2 Type DD Backup

Path 1 Programming	Path 2 Programming
Comm Type = NET	Comm Type = DD
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
Send Comm Trbl = Yes	Send Comm Trbl = Yes
Comm Path Trbl = Yes (Status List Programming)	

Path 1 Type NET Primary and Path 2 Type CELL Backup

Path 1 Programming	Path 2 Programming
Comm Type = NET	Comm Type = CELL
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
Send Comm Trbl = Yes	Send Comm Trbl = Yes
Comm Path Trbl = Yes (Status List Programming)	

Path 1 Type CELL Primary and Path 2 Type NET Backup

Path 1 Programming	Path 2 Programming
Comm Type = CELL	Comm Type = NET
Path Type = Primary	Path Type = Backup
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
Send Comm Trbl = Yes	Send Comm Trbl = Yes
Comm Path Trbl = Yes (Status List Programming)	

27.9 Combination Systems

For combination fire and burglary systems, powered burglary devices (PIR, Glassbreak, etc.) must be powered from a separate listed power supply (DMP Model 505-12). This requirement is not needed for non-powered burglary devices (door contacts, etc.) which only connect to the zone input of zone expanders or keypads. Refer to Powered Burglary Devices later in this document.

For combination fire and burglary systems, burglary sounding devices such as sirens and bells must be energized using panel relays, 860 relays, or 716 relays. Programming the output to activate the relay must occur using the Burglary Bell Output option in Area Information or by the Alarm Action output option of Zone Information. The Burglary Bell Action option of the panel Bell Options must be programmed as None.

27.10 Remote Annunciators

At least one Model 630F Remote Annunciator must be used on the system. All fire alarms, fire troubles and supervisory alarms or troubles must be annunciated only on the 630F. All burglary alarms or troubles must only be annunciated on non-fire keypads. See Status List options of the XR500 Series Programming Guide (LT-0679).

27.11 Notification Appliances

The following table indicates the approved notification appliances that can be used with the XR500FC Series system.

Wheelock Model No.	Description	Max No. of Appliances using 56 VA/100 VA
MT-12/24	Multi-tone Horn	8
MB-G6-12	Bell, 6 inch	16
MB-G10-12	Bell, 10 inch	16
ST Series	Strobe, 15/75 candela	5
HS Series	Horn Strobe, 15/75 candela	5
SM-12/24-R	Sync Module, Single circuit	
DSM-12/24-R	Sync Module, Dual circuit	

27.12 Cross Zoning

When using cross zoning, there must be a minimum of two detectors installed in each protected space and the detector installation spacing must be 0.7 times the linear spacing in accordance with National Fire Alarm Code, NFPA 72.

27.13 Ground Fault

For supervised circuits, ground fault is detected at 0 (zero) Ohms.

27.14 Wireless Testing

When using the 1100X or 1100XH Wireless Receiver for Fire Protective Signaling, after all transmitters are in position, the WLS option of the panel's Walk Test must be operated and all transmitters programmed for Fire (FI) or Supervisory (SV) must show that their checkin message was received.

27.15 Wireless Supervision

When using the 1103 Universal Transmitter for Fire Protective Signaling, supervision time must be set for 3 minutes. Supervision time cannot be set to 0 (zero).

California State Fire Marshal Specifications

28.1 Bell Output Definition

The Model XR500 Series panel Bell Output must be programmed to operate steady on burglary alarms and pulsed, temporal, or California School Code on fire alarms.

New York City (FDNY) Specifications

29.1 Introduction

The programming specifications contained in section 29.2 or 29.3 must be completed when installing the XR500 Series panel for New York City (FDNY) fire alarm installations for IP communication applications.

Note: Fire alarm installations that use **two digital dialer telephone lines** do not need to comply with these two sections.

29.2 Network and Cellular Communication, Primary and Secondary

When installed as a central station Internet (Network) communicator or slave transmitter both primary and secondary channels of communication are required and must meet the conditions below. Network communication must be used as primary channel of communication with Central Station and a 463C Cellular Communicator must be used as the secondary channel of communication or in reverse order: 463C Cellular Communicator as primary and Network connection as the secondary channel.

Path 1 Type NET Primary and Path 2 Type CELL Backup Programming

Path 1 Programming	Path 2 Programming
Comm Type = NET	Comm Type = CELL
Path Type = Primary	Path Type = Backup
Checkin Min = 5	Checkin Min = 5
Failtime Min = 5	Failtime Min = 5
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
Send Comm Trbl = Yes	Send Comm Trbl = Yes
Comm Path Trbl = Yes (Status List Programming)	

Path 1 Type CELL Primary and Path 2 Type NET Backup Programming

Path 1 Programming	Path 2 Programming
Comm Type = CELL	Comm Type = NET
Path Type = Primary	Path Type = Backup
Checkin Min = 5	Checkin Min = 5
Failtime Min = 5	Failtime Min = 5
Test Rpt = Yes	Test Rpt = Yes
Test Freq = 1 Dy	Test Freq = 1 Dy
Send Comm Trbl = Yes	Send Comm Trbl = Yes
Comm Path Trbl = Yes (Status List Programming)	

Please see The City of New York Fire Department Certificate of Approval # 6123 and #6145 for additional installation instructions.

29.3 Digital Dialer Primary and Network Secondary Communication

When used with a central office communicator or a transmitter, the installation and operation of the equipment and devices must comply with 3RCNY 17-01. The installation must employ the digital dialer as the primary communicator (using telephone line) with network IP communication as backup or secondary means of communication. It must have the capability of transmitting separate and distinct signals to indicate manual pull station alarm, automatic detection alarm, sprinkler waterflow alarm, supervisory signal indications and trouble indications.

29.3.1 Communication Programming

For digital dialer communication with supervised network backup, program the following:

PRIMARY COMM TYPE = DD
FIRST PHONE NUMBER = Central Station Receiver Phone Number
BACKUP COMM TYPE = NET
RECEIVER
ALARMS = YES

29.4 Wiring

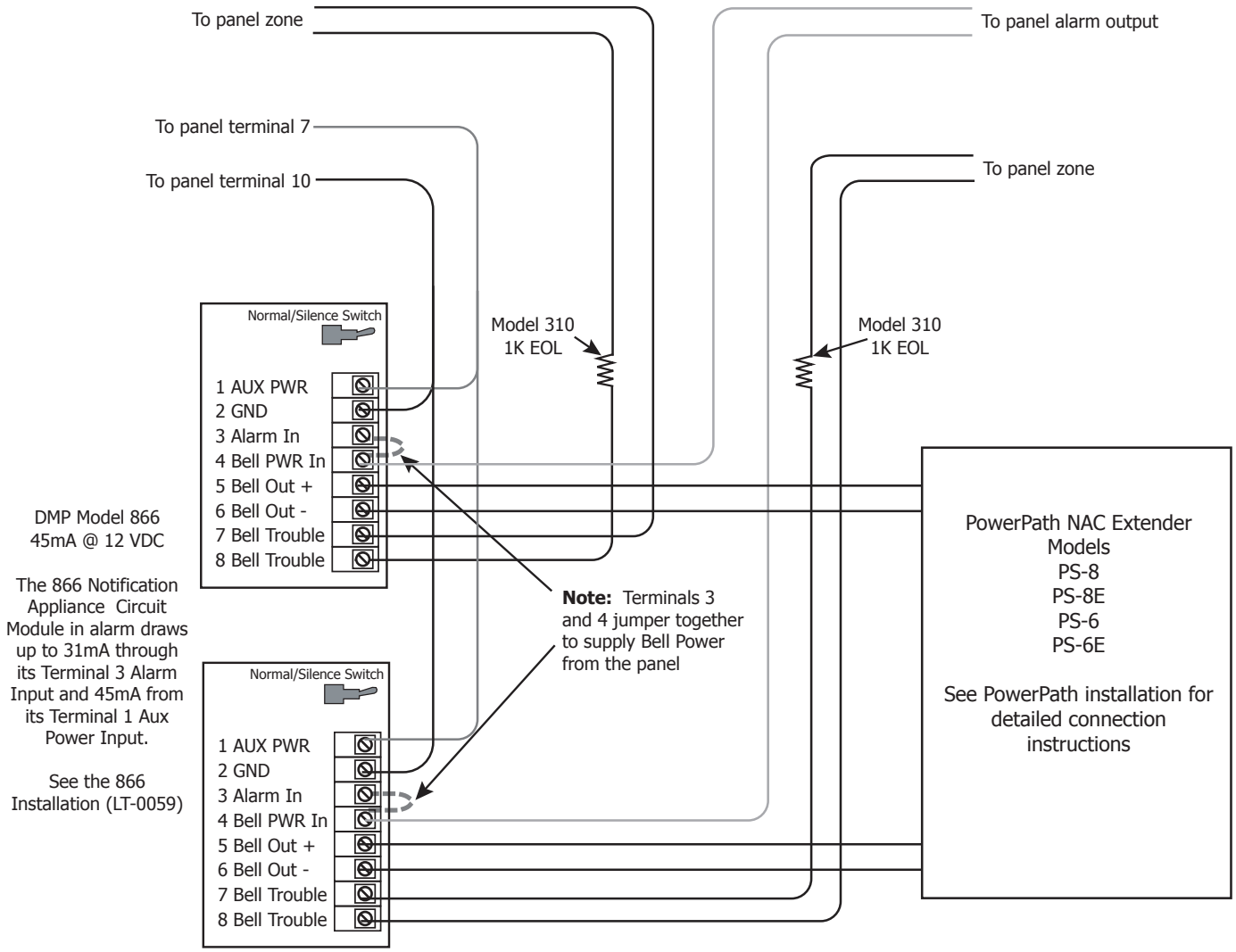
All wiring must be in accordance with NEC, ANSI, and NFPA 70. All network cabling must be installed in accordance with NFPA 70 for communication circuits.

29.5 Additional Requirements

Program and install the equipment to comply with NFPA basic fire requirements. Refer to the Universal Fire Alarm Specifications and ANSI/UL 864 NFPA 72 Specifications in this document.

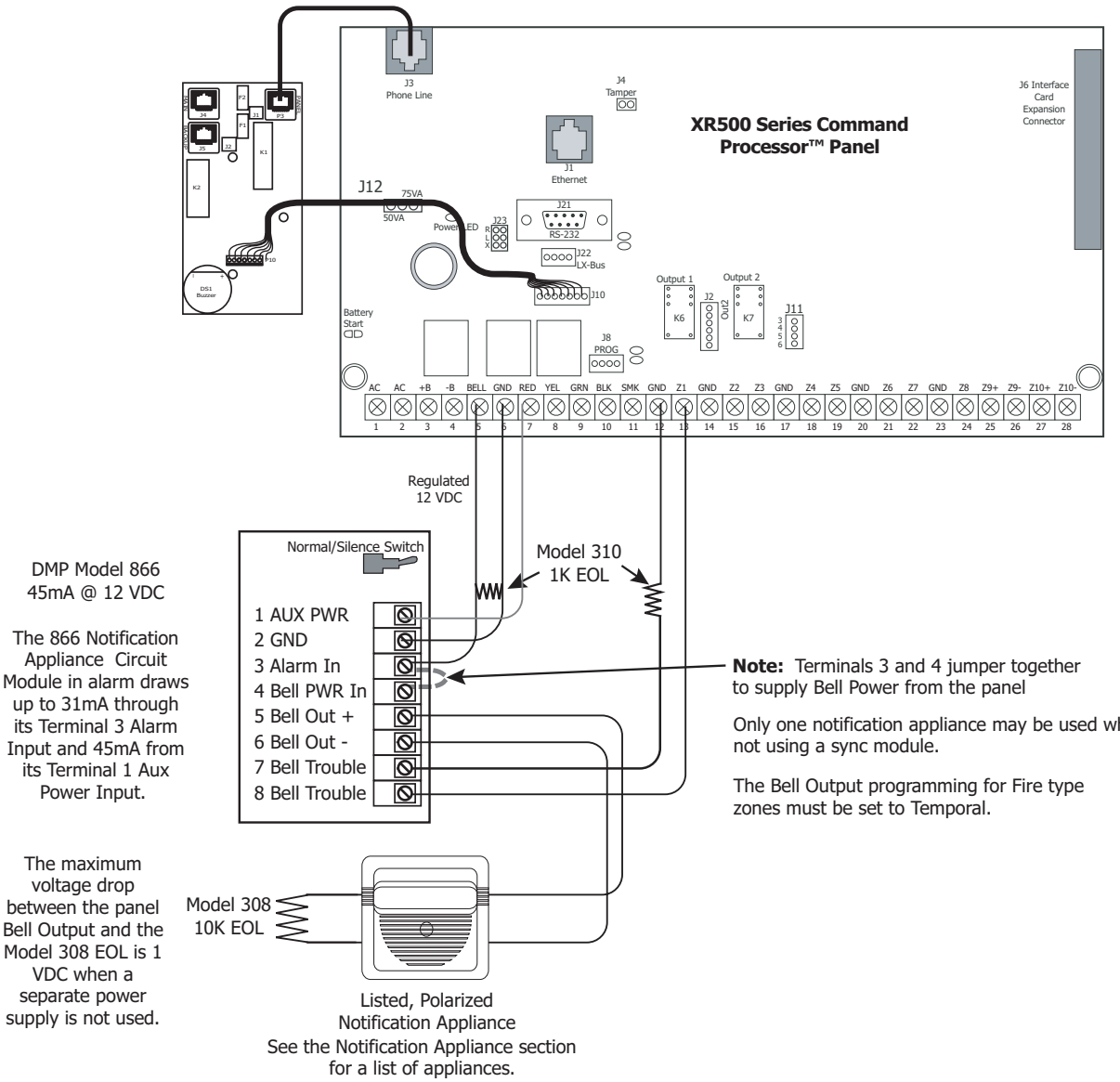
Wiring Diagrams

30.1 866 with NAC Extender



The Bell Output programming for Fire type zones must be set to Steady

30.2 866 Class B Style W using Single Notification Appliance



DMP Model 866
45mA @ 12 VDC

The 866 Notification Appliance Circuit Module in alarm draws up to 31mA through its Terminal 3 Alarm Input and 45mA from its Terminal 1 Aux Power Input.

Note: Terminals 3 and 4 jumper together to supply Bell Power from the panel

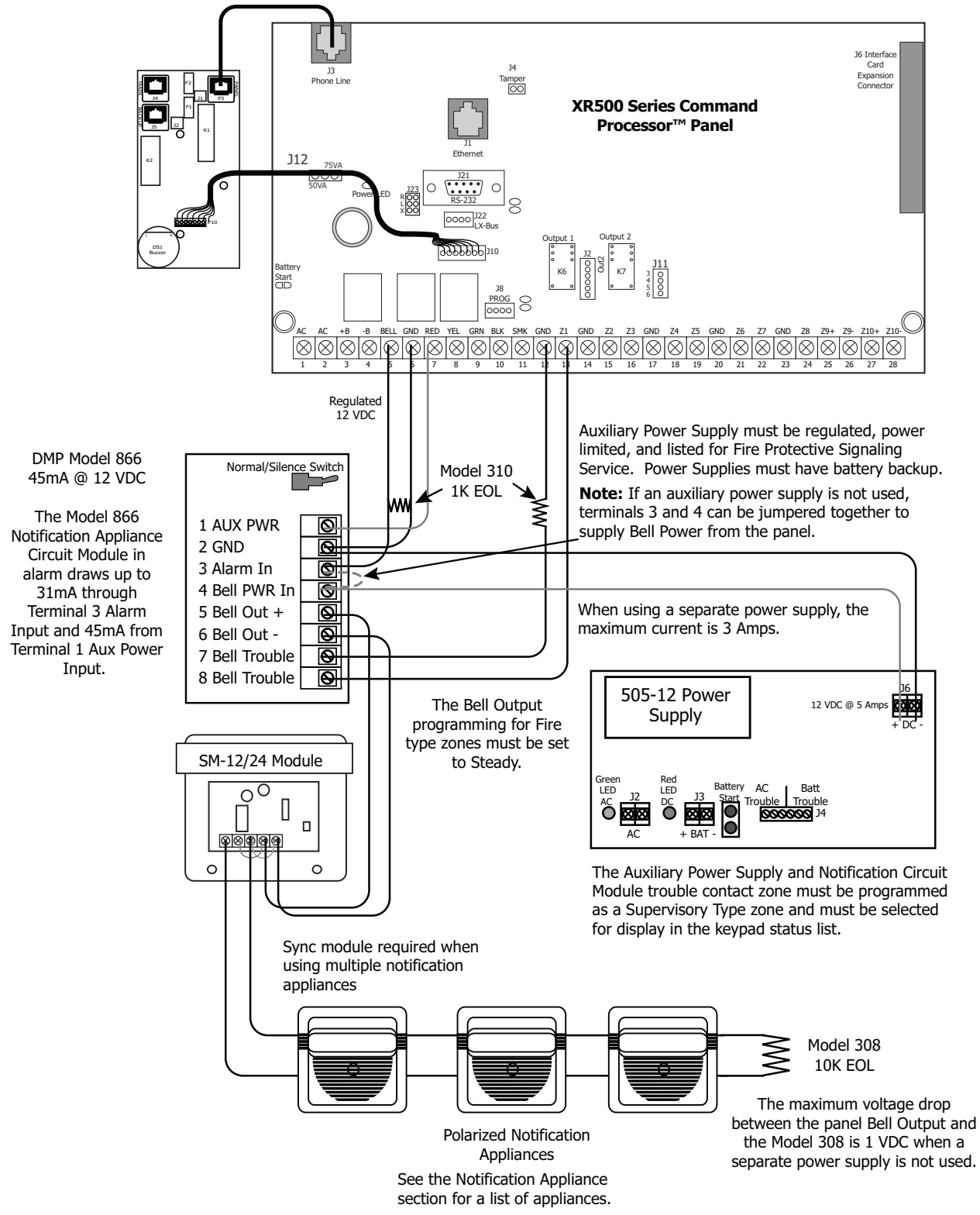
Only one notification appliance may be used when not using a sync module.

The Bell Output programming for Fire type zones must be set to Temporal.

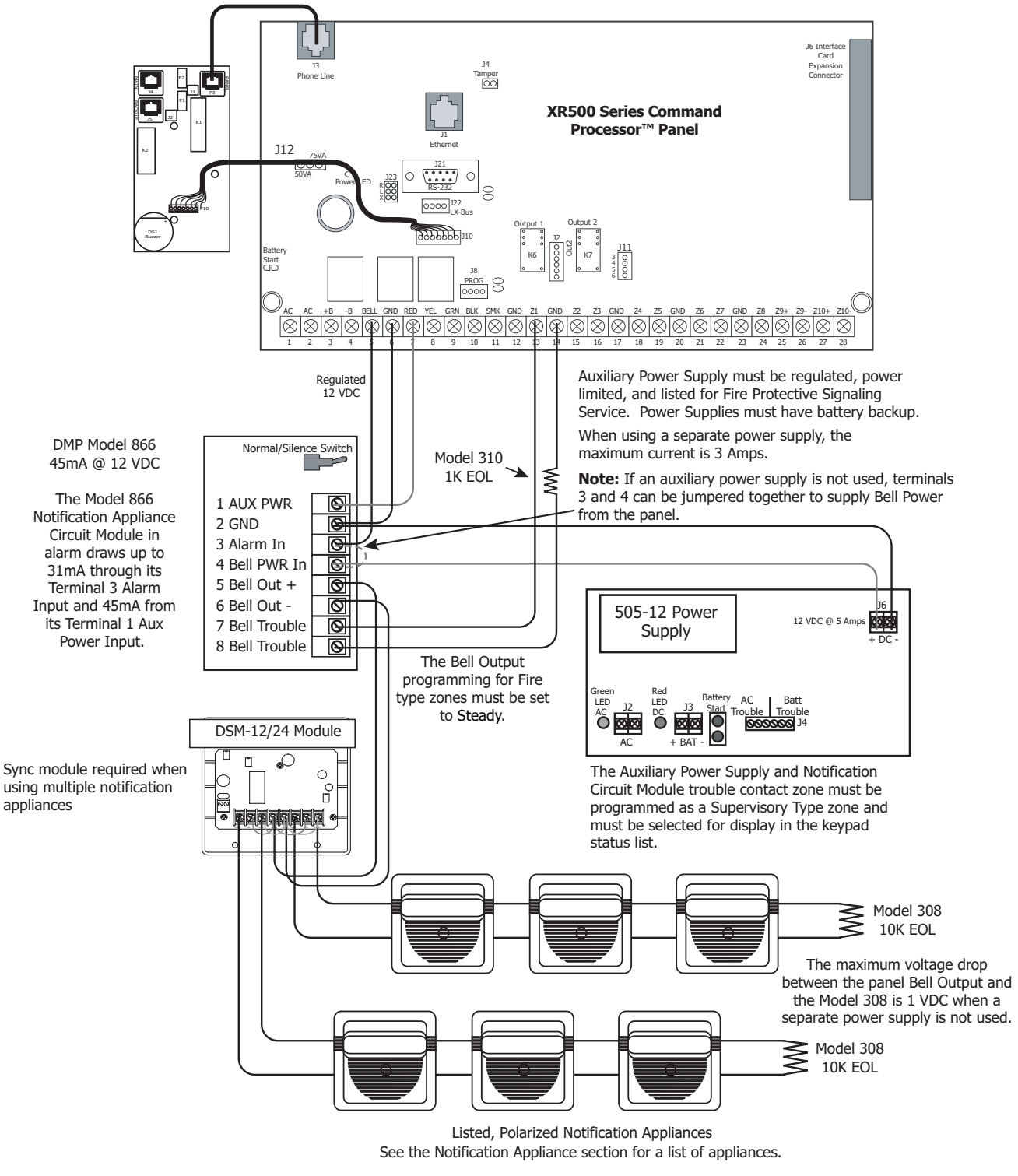
The maximum voltage drop between the panel Bell Output and the Model 308 EOL is 1 VDC when a separate power supply is not used.

Listed, Polarized
Notification Appliance
See the Notification Appliance section for a list of appliances.

30.3 866 Class B Style W Multiple Notification Appliance Circuit

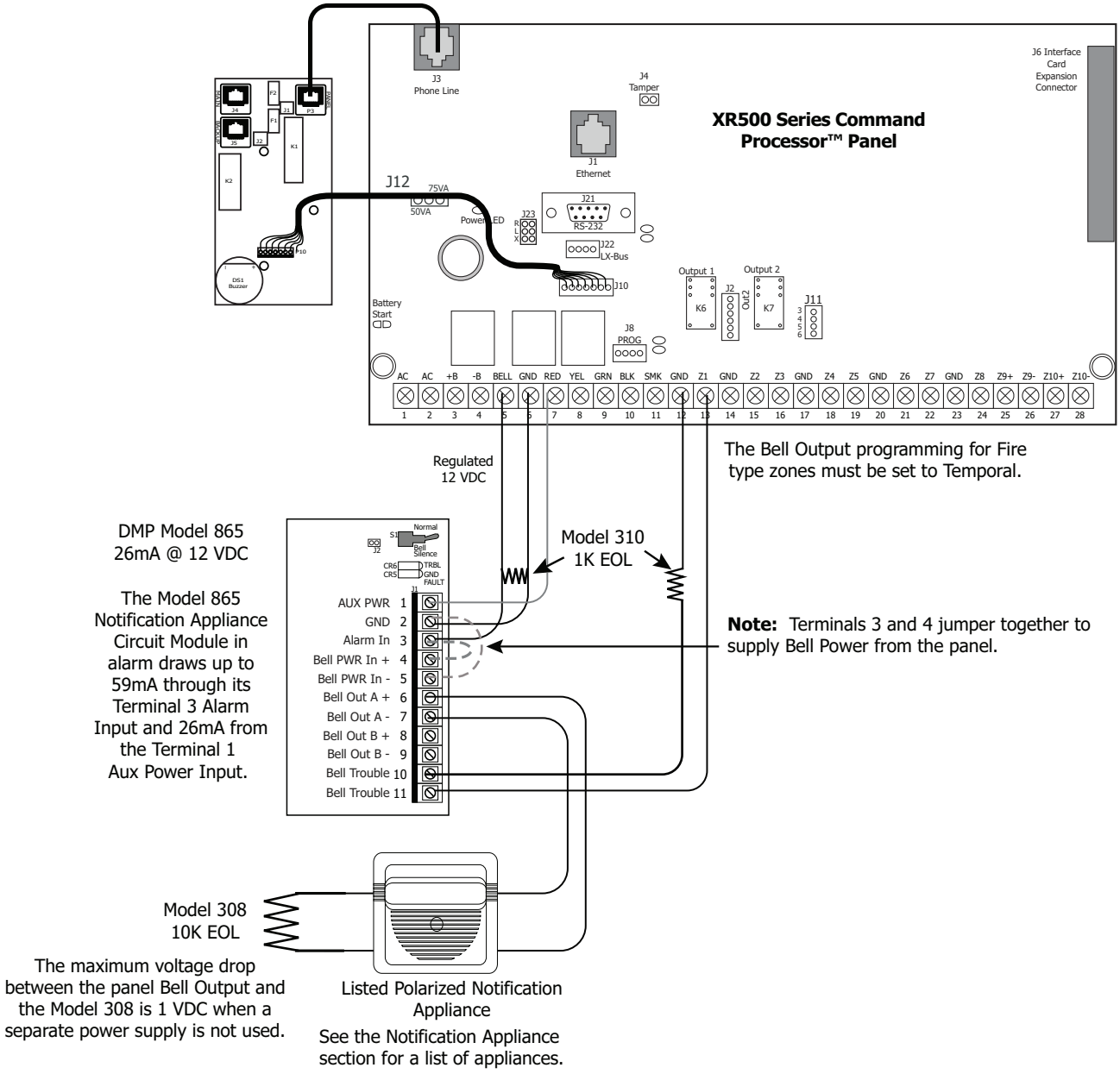


30.4 866 Class B Style W Dual Notification Appliance Circuits

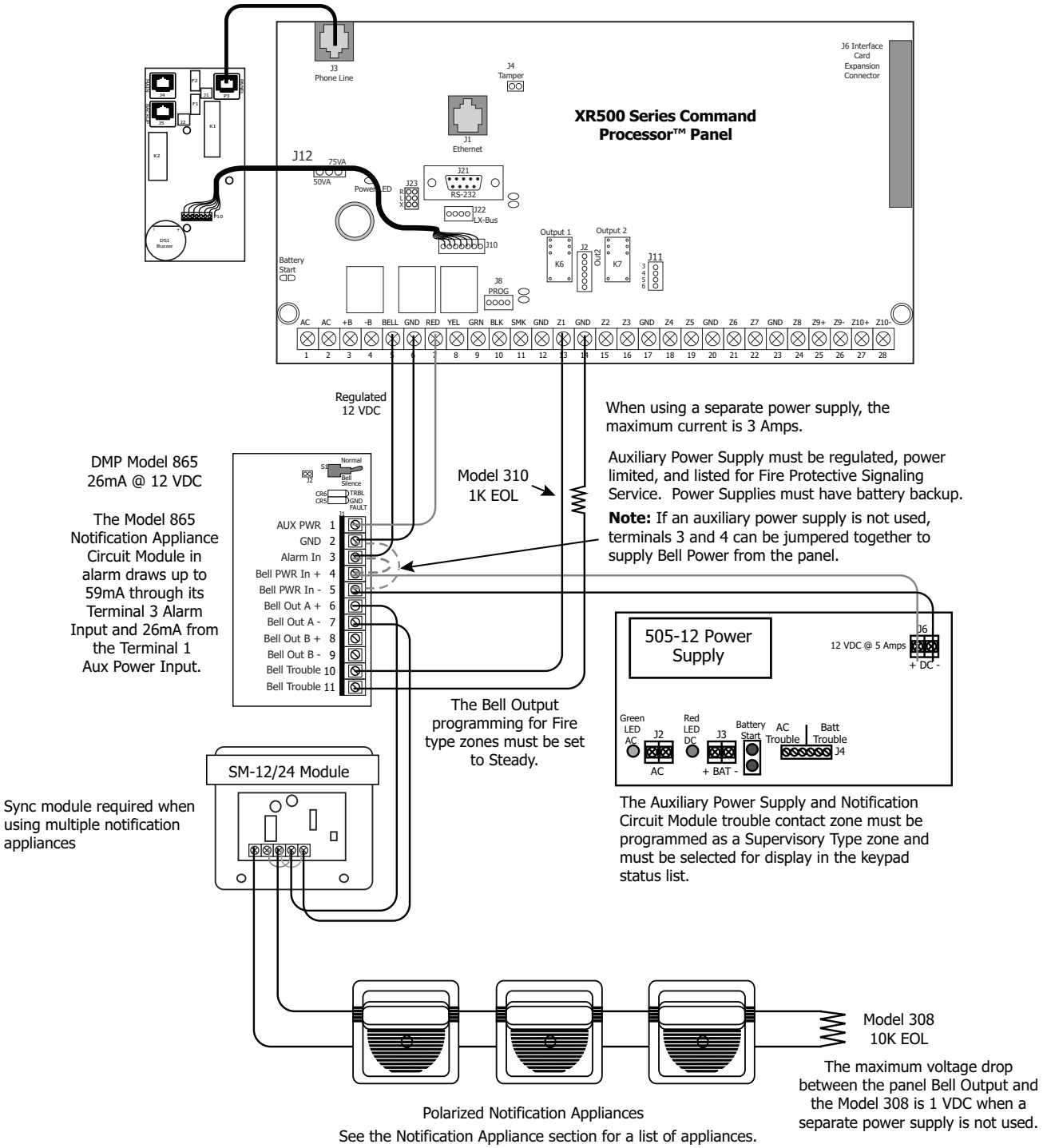


Listed, Polarized Notification Appliances
See the Notification Appliance section for a list of appliances.

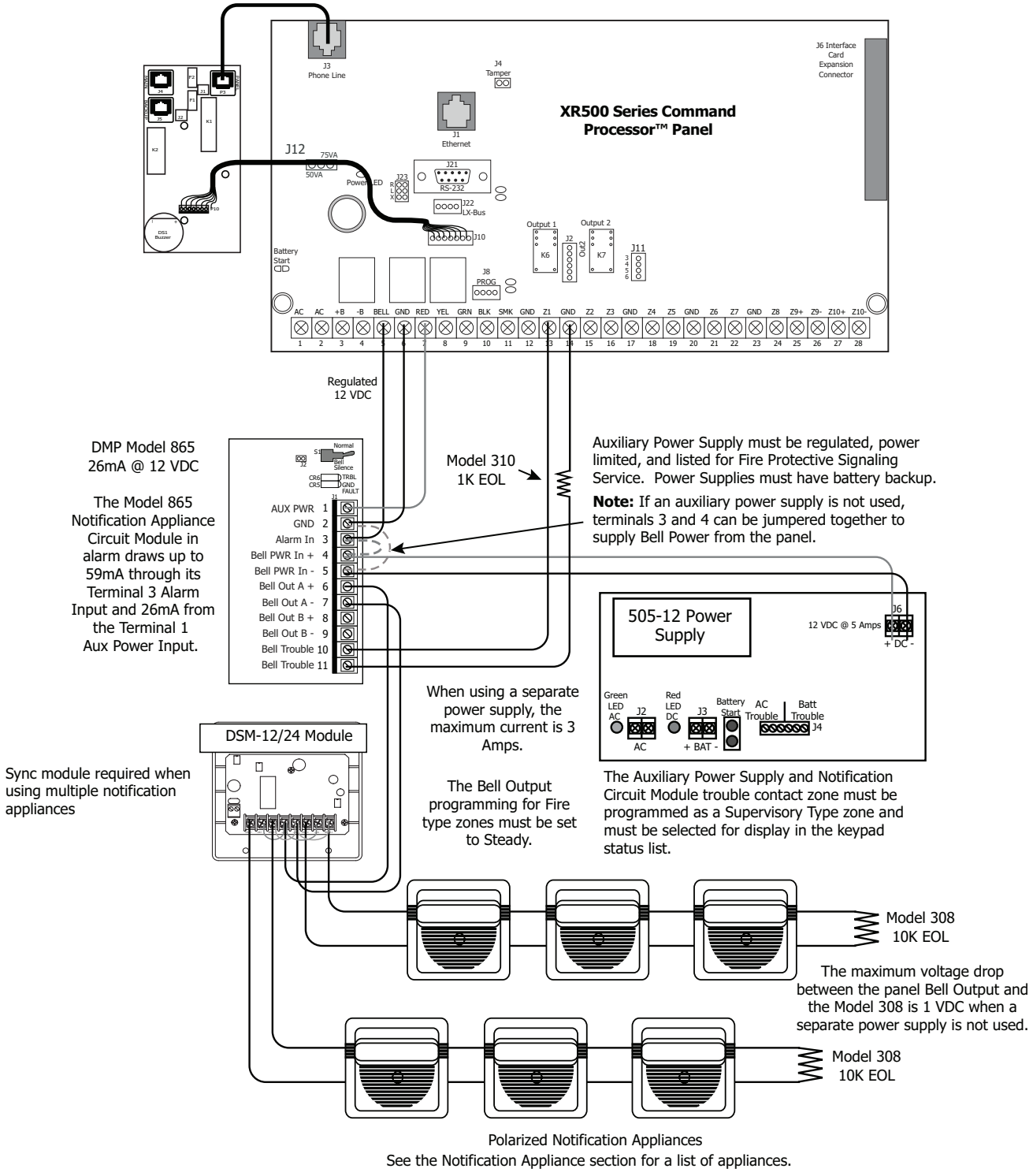
30.5 865 Class B Style W using Single Notification Appliance



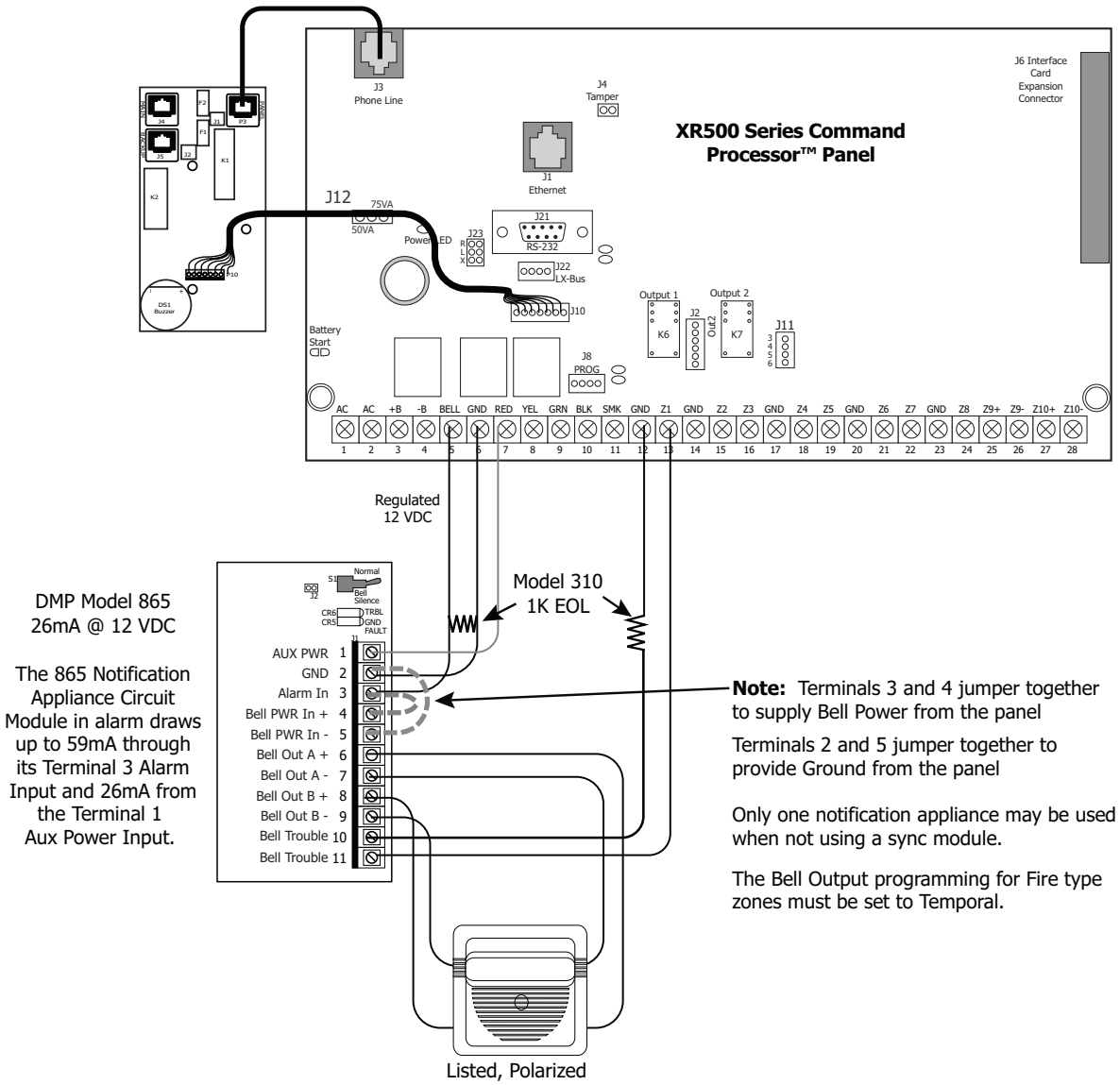
30.6 865 Class B Style W Multiple Notification Appliance Circuit



30.7 865 Class B Style W Dual Notification Appliance Circuits



30.8 865 Class A Style X using Single Notification Appliance



DMP Model 865
26mA @ 12 VDC

The 865 Notification Appliance Circuit Module in alarm draws up to 59mA through its Terminal 3 Alarm Input and 26mA from the Terminal 1 Aux Power Input.

Note: Terminals 3 and 4 jumper together to supply Bell Power from the panel

Terminals 2 and 5 jumper together to provide Ground from the panel

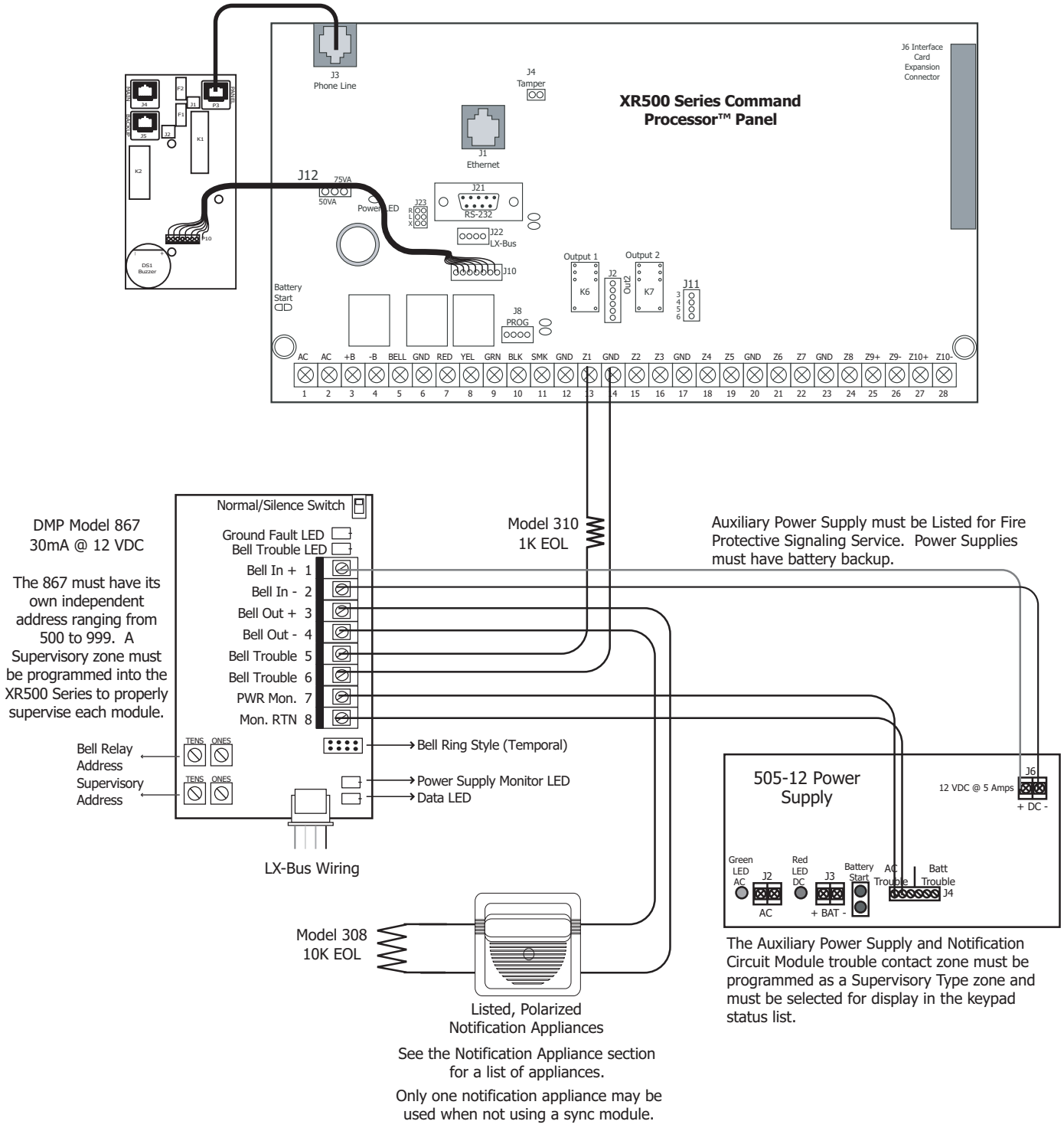
Only one notification appliance may be used when not using a sync module.

The Bell Output programming for Fire type zones must be set to Temporal.

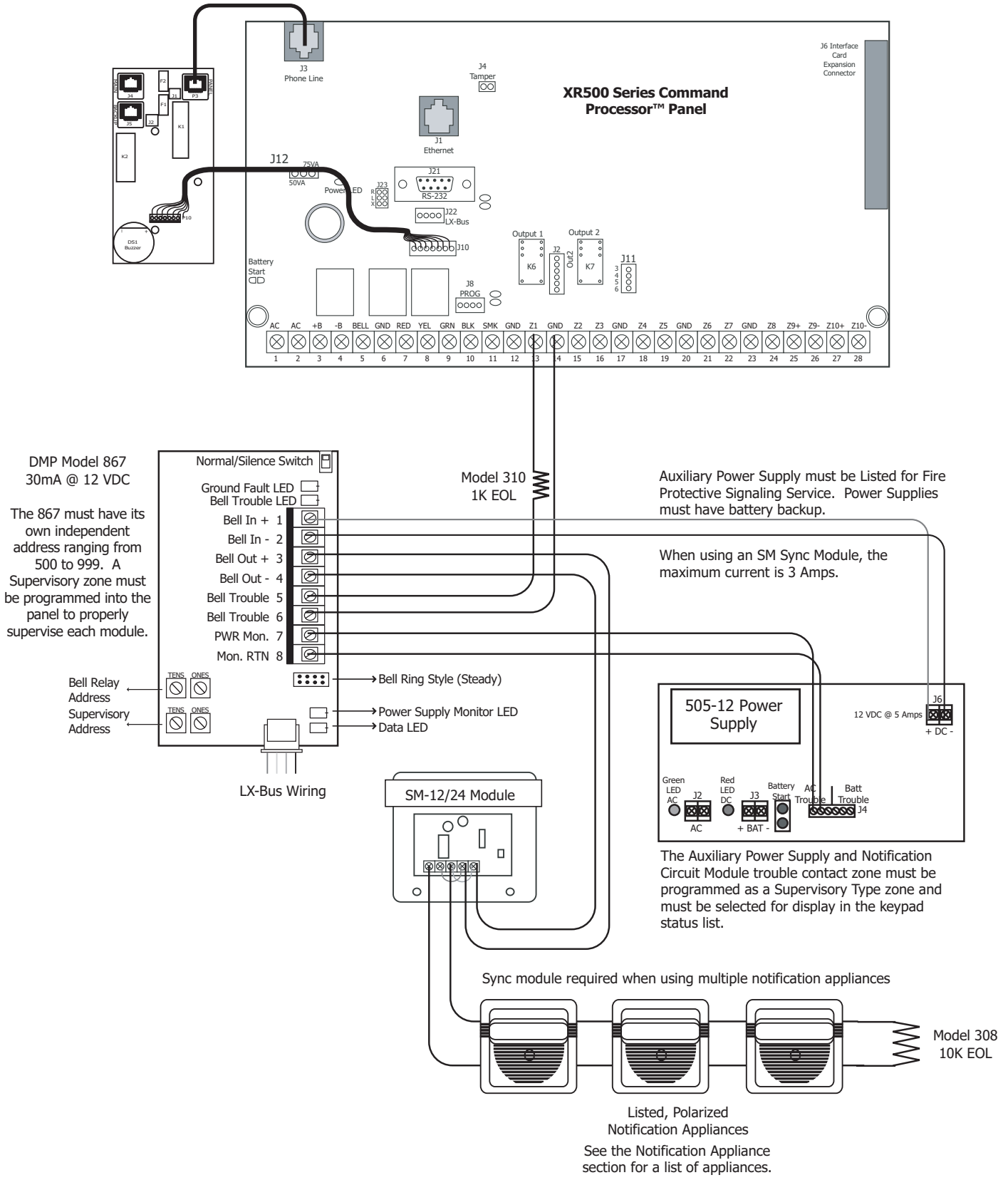
Listed, Polarized Notification Appliance

See the Notification Appliance section for a list of appliances.

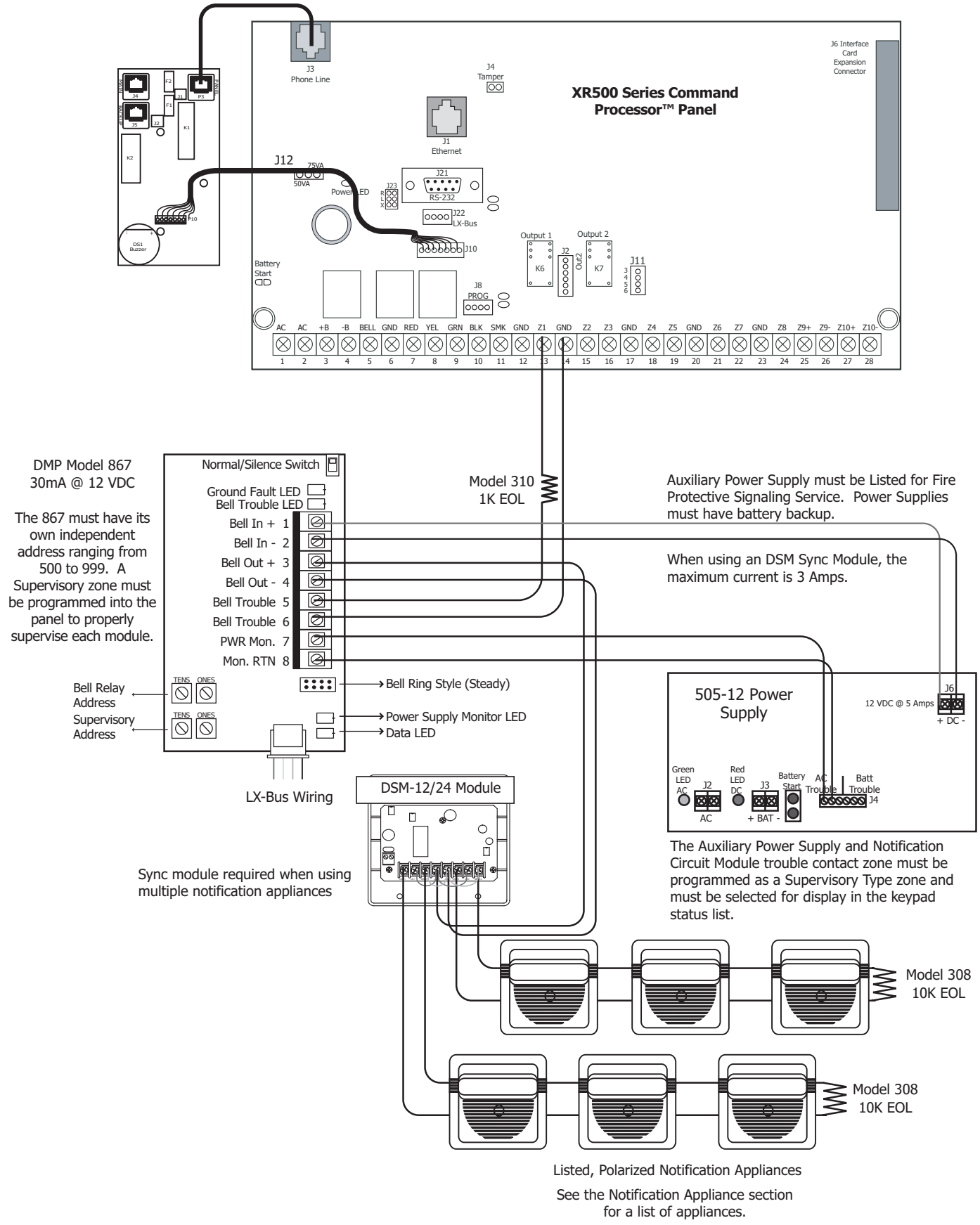
30.9 867 Class B Style W using Single Notification Appliance



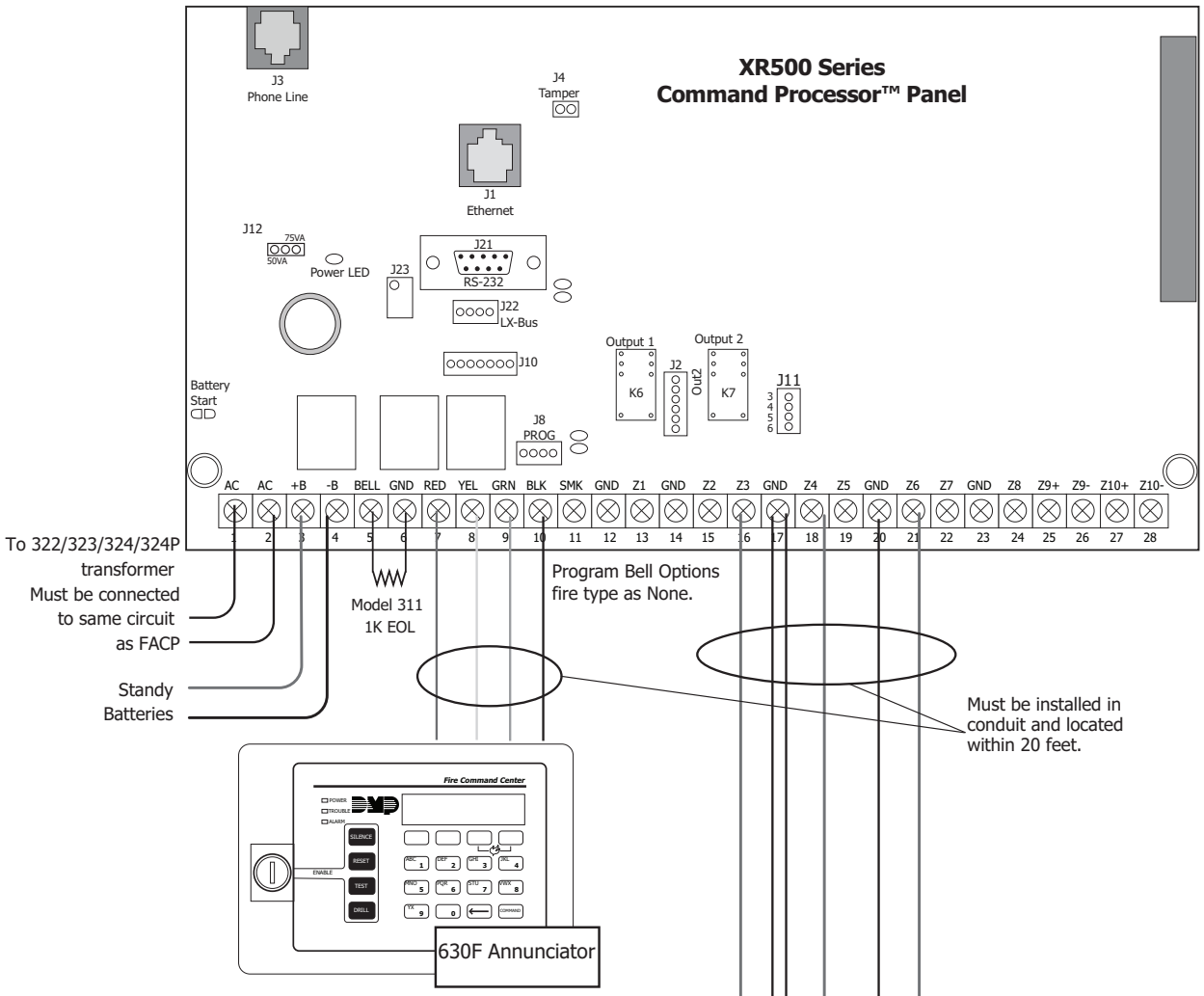
30.10 867 Class B Style W Multiple Notification Appliance Circuit



30.11 867 Class B Style W Multiple Notification Appliance Circuits



30.12 Panel Slave Communicator for FACP using 630F Annunciator

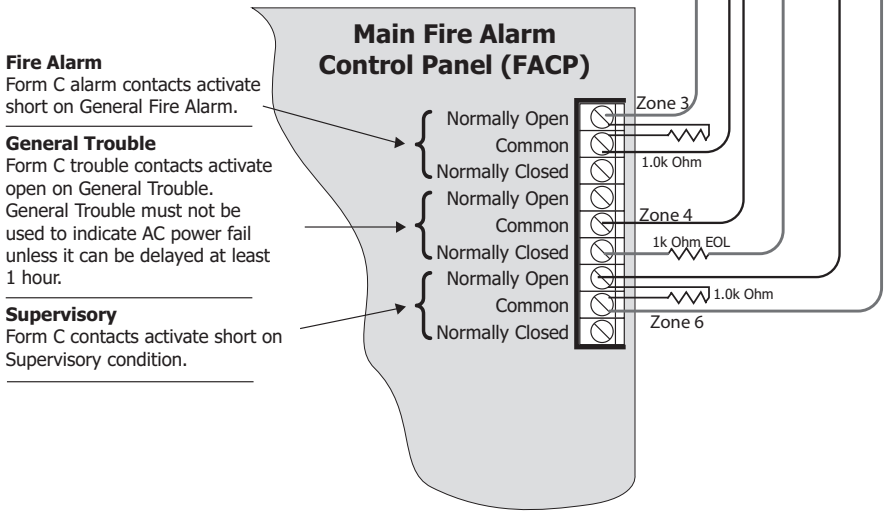


Program for Fire Protective Signaling communication to the Central Station.

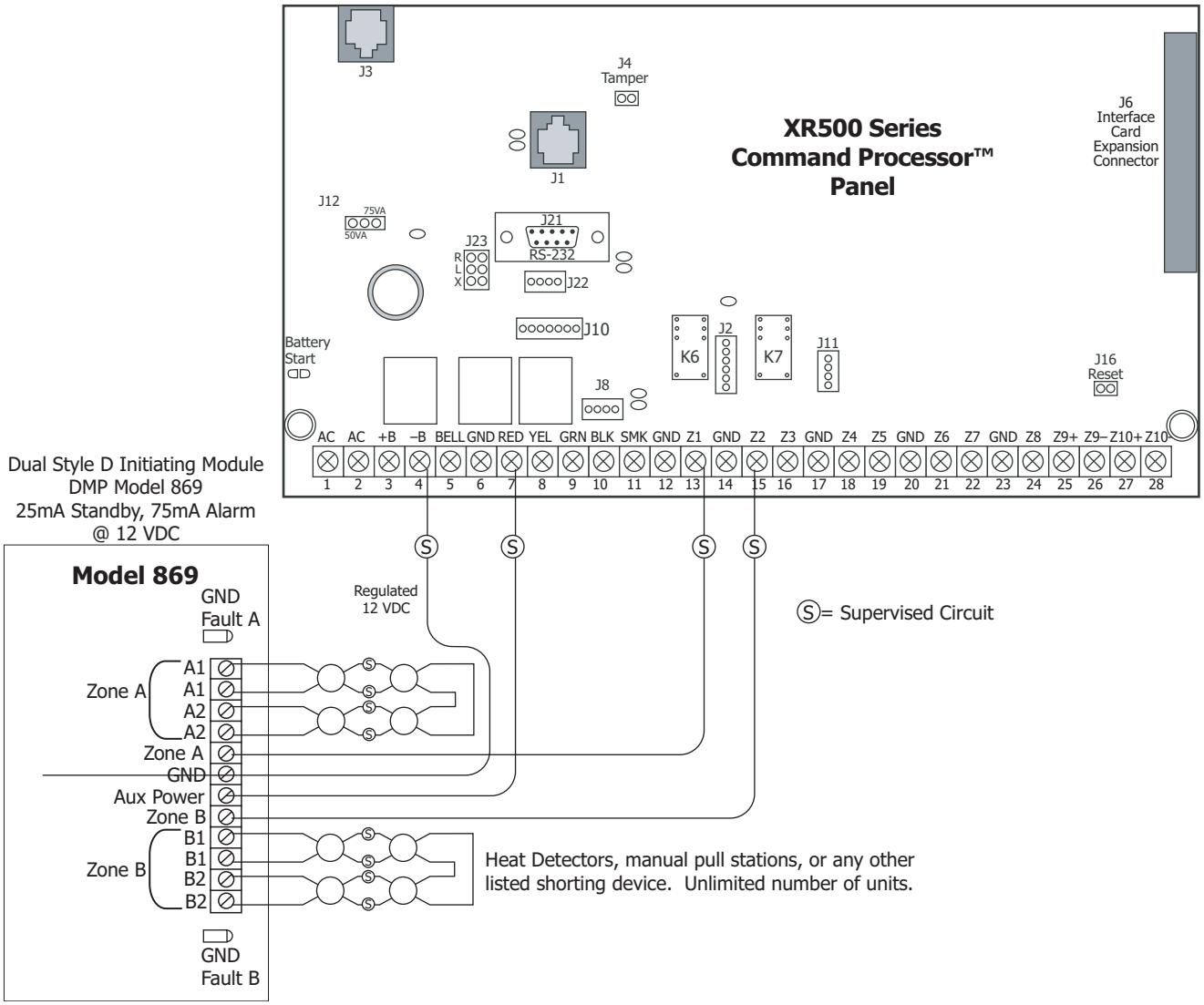
Program Fire Alarm zone as type FI and set Fire Panel Slave Input option as YES.

Program General Trouble zone as type FI.

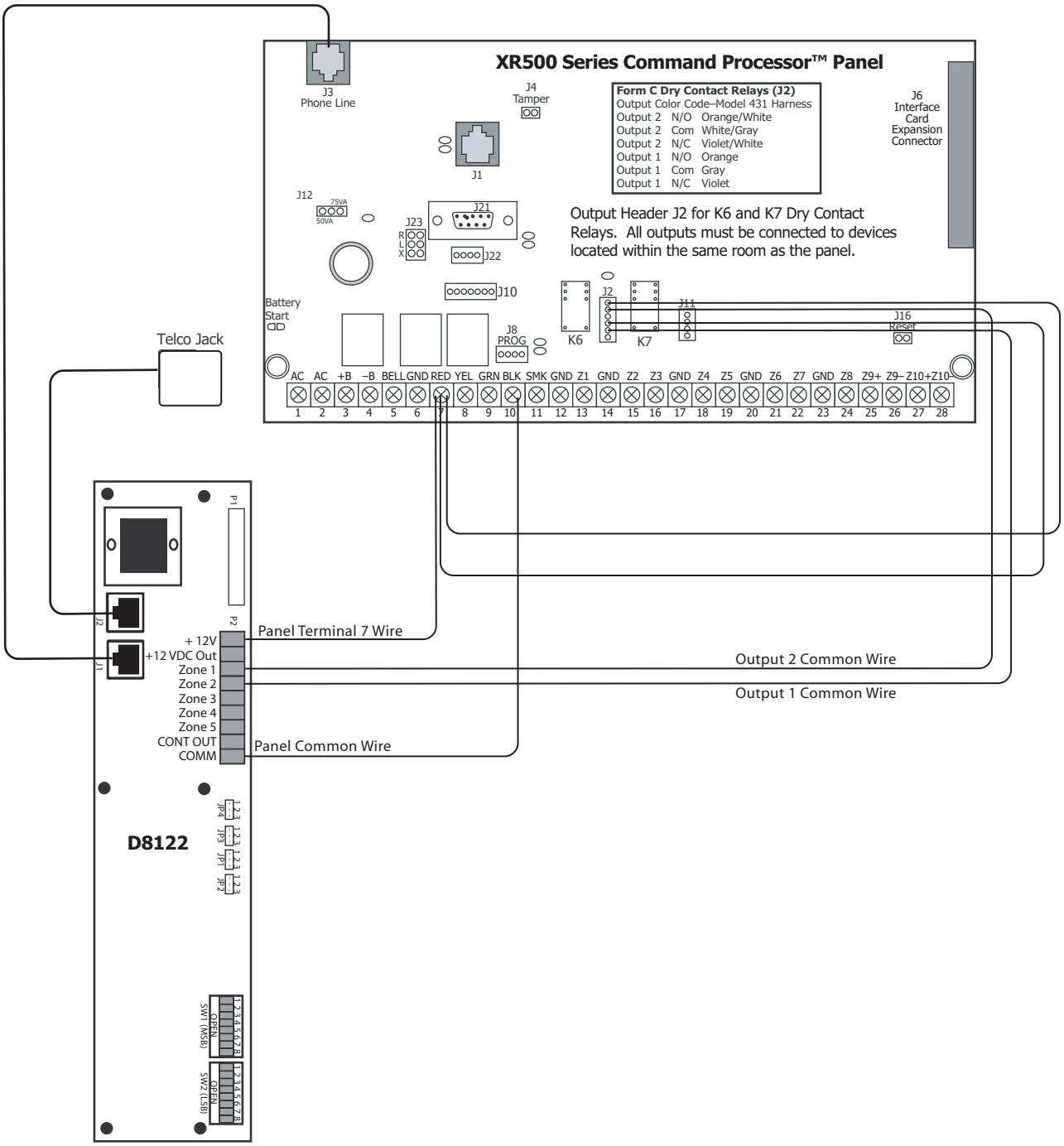
Program Supervisory zone as type SV and set the Latch Supervisory option in System Options as NO.



30.13 Dual Style D Zone Module Installation



30.14 Derived Channel Installation Using Bosch D8122

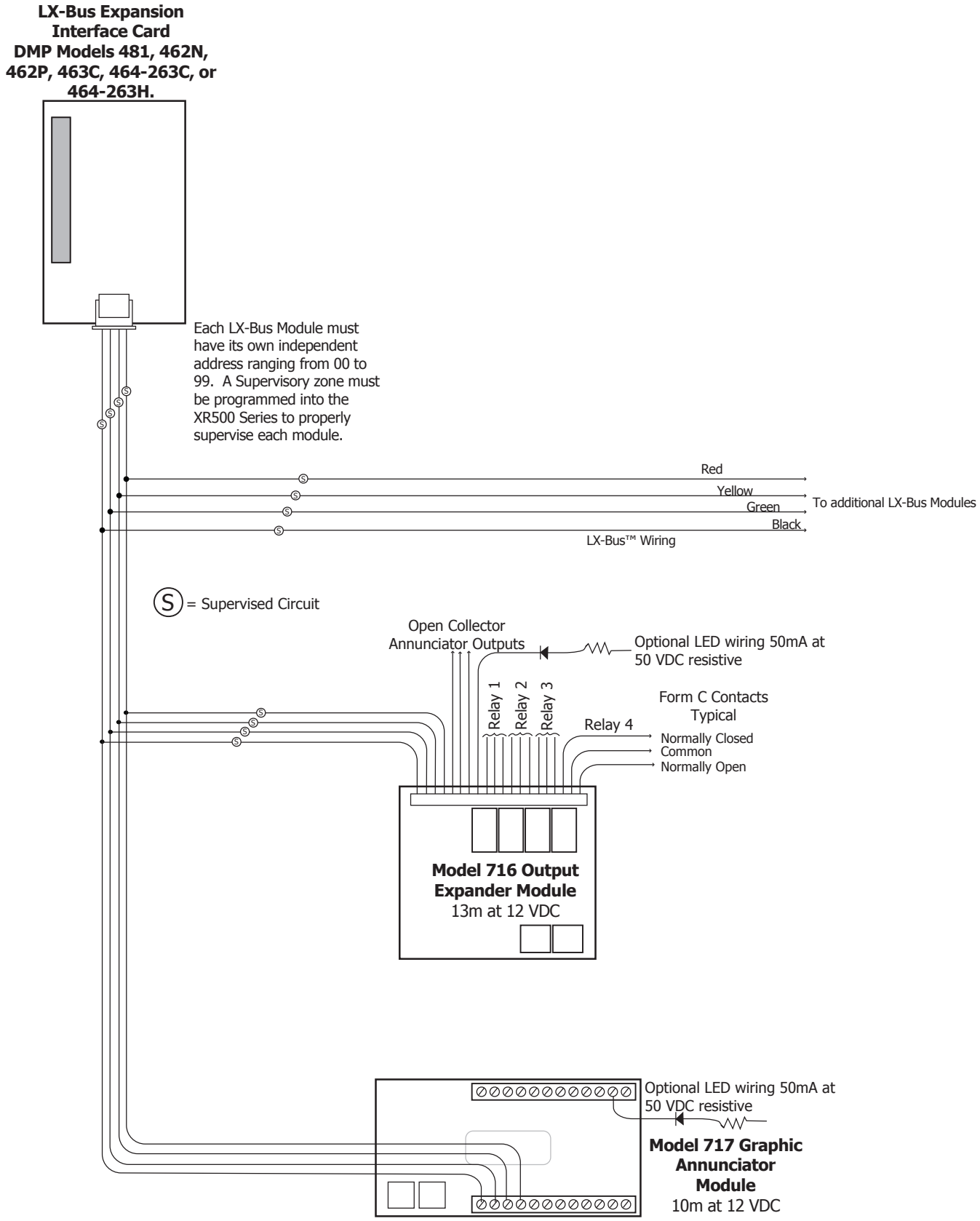


Interfacing D8122 to the XR500FC Series Panels

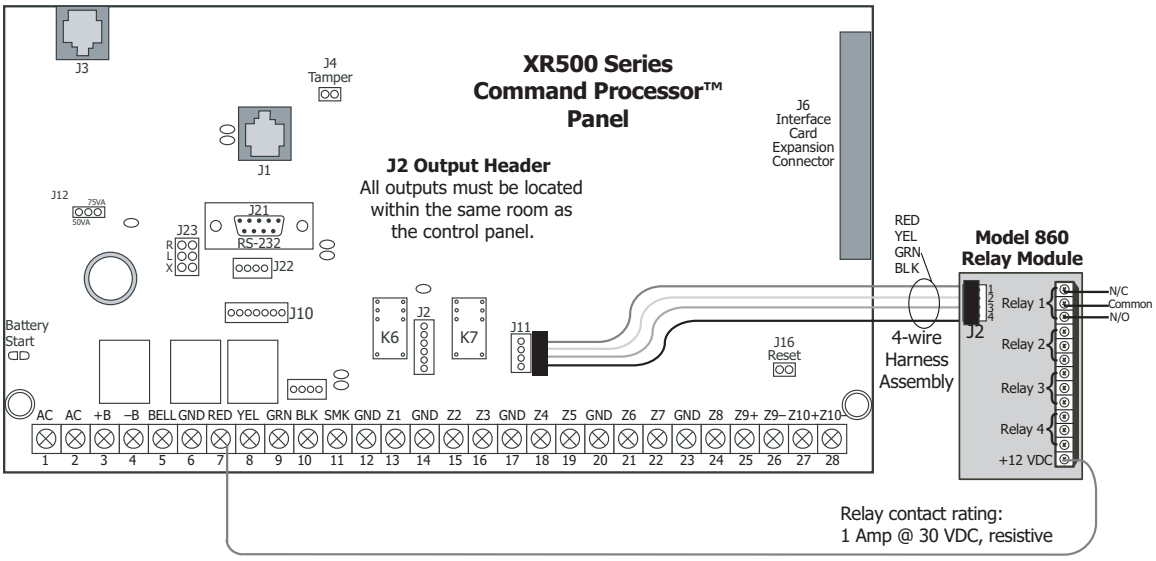
The D8122 may only be used in conjunction with telephone systems that support Derived Channel network. For installation instructions, see the Derived Channel STUD8121A/D8122 Operation and Installation Guide.

- For Standard Line Security applications, the panel must be installed and programmed to meet burglary alarm system requirements.
- The panel must be installed and programmed for reporting all alarm conditions through the integral DACT or network connection to the same central station that monitors the D8122.
- The D8122 must be installed in the same enclosure as the XR500FC Series panel using the supplied mounting hardware. Refer to the STUD8121A/D8122 Operation and Installation Guide.

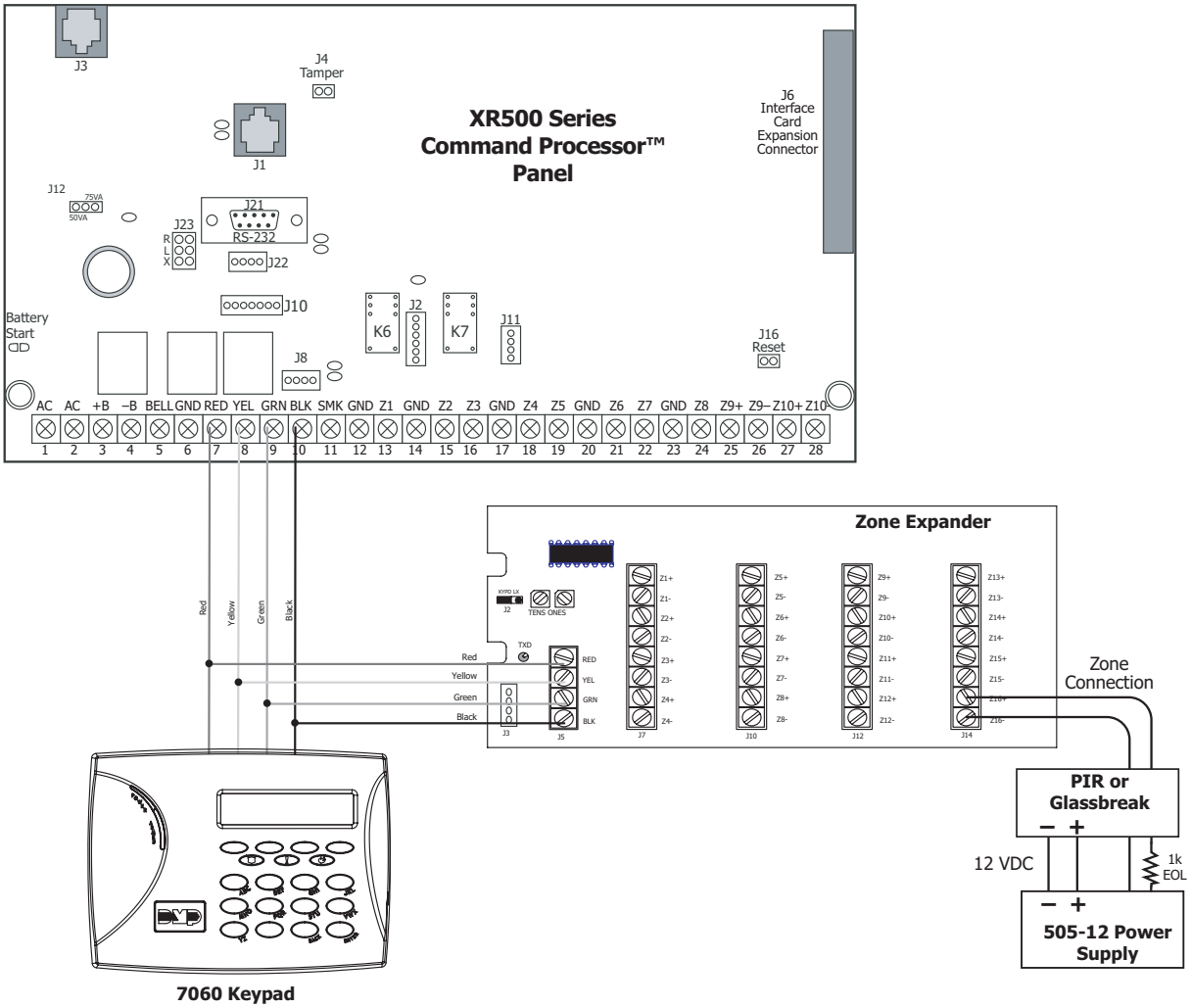
30.15 LX-Bus™ Module Connection



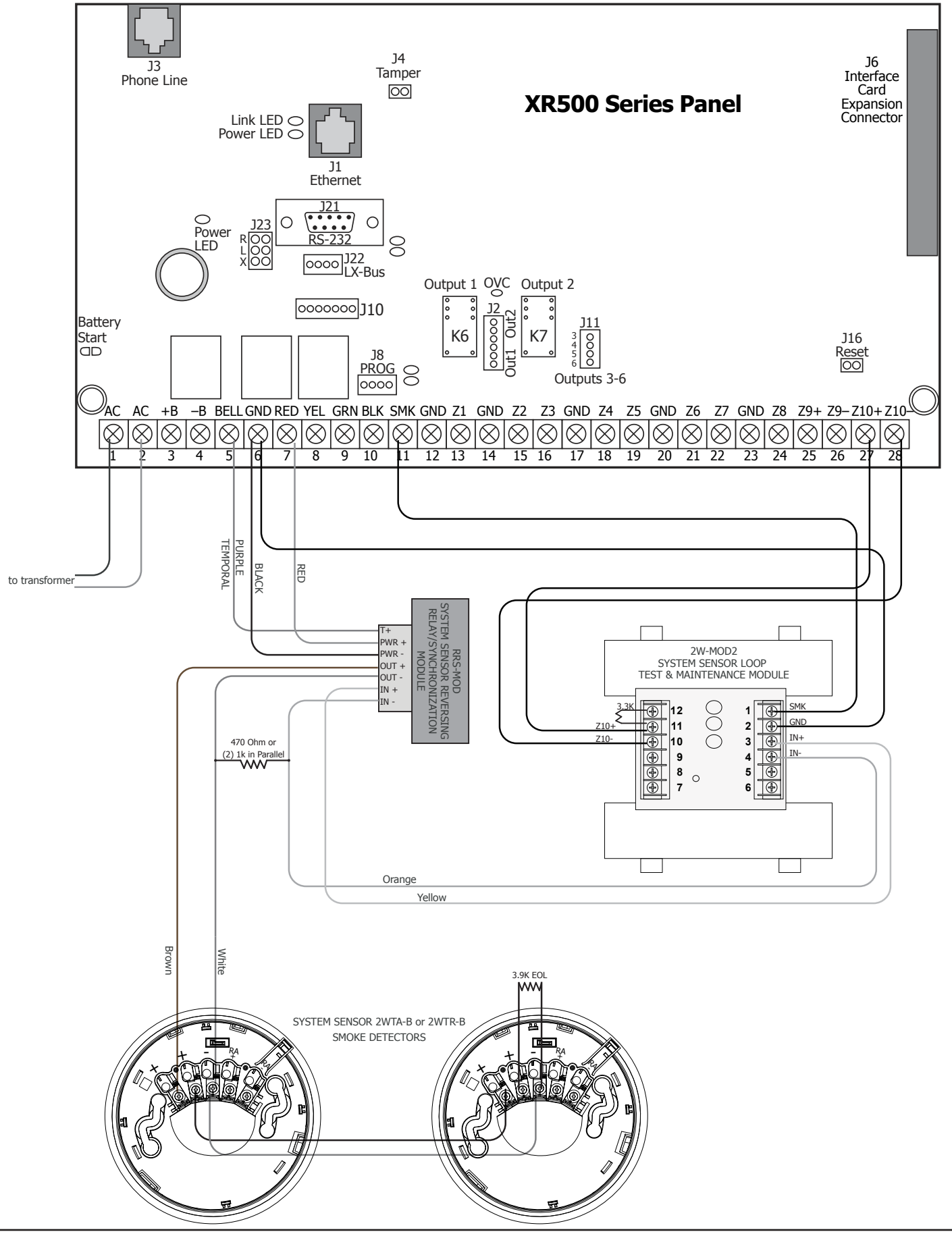
30.16 Model 860 Relay Module Connection



30.17 Powered Burglary Devices

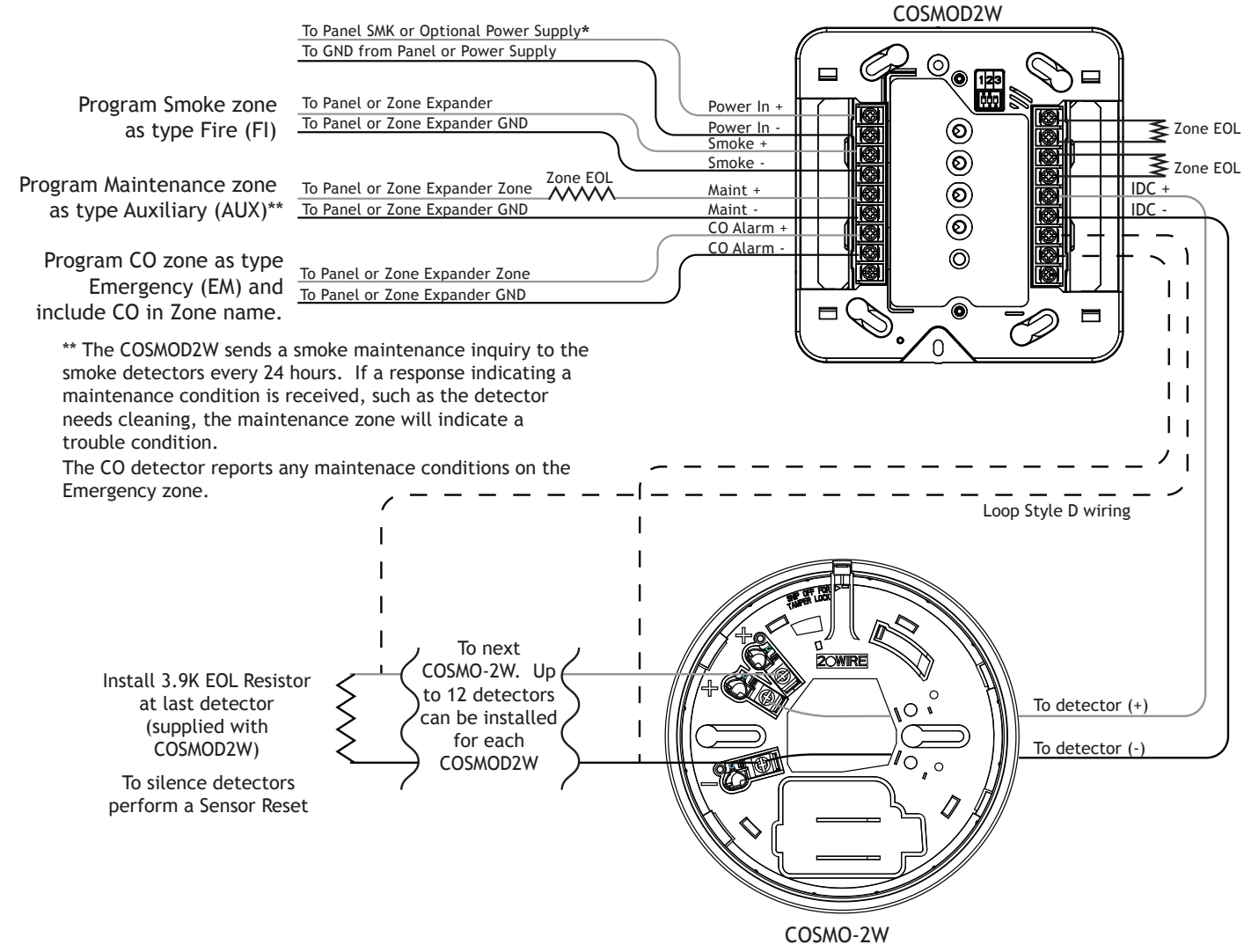


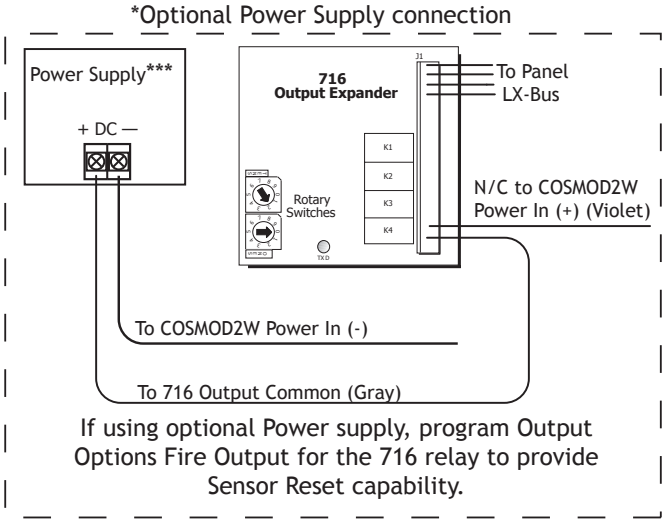
30.18 Model 860 Relay Module Connection



30.19 System Sensor i4 Series Smoke and CO Detectors Using A Single COSMOD2W Module

See i4 Series Interface Module Installation and Maintenance Instructions for additional information.

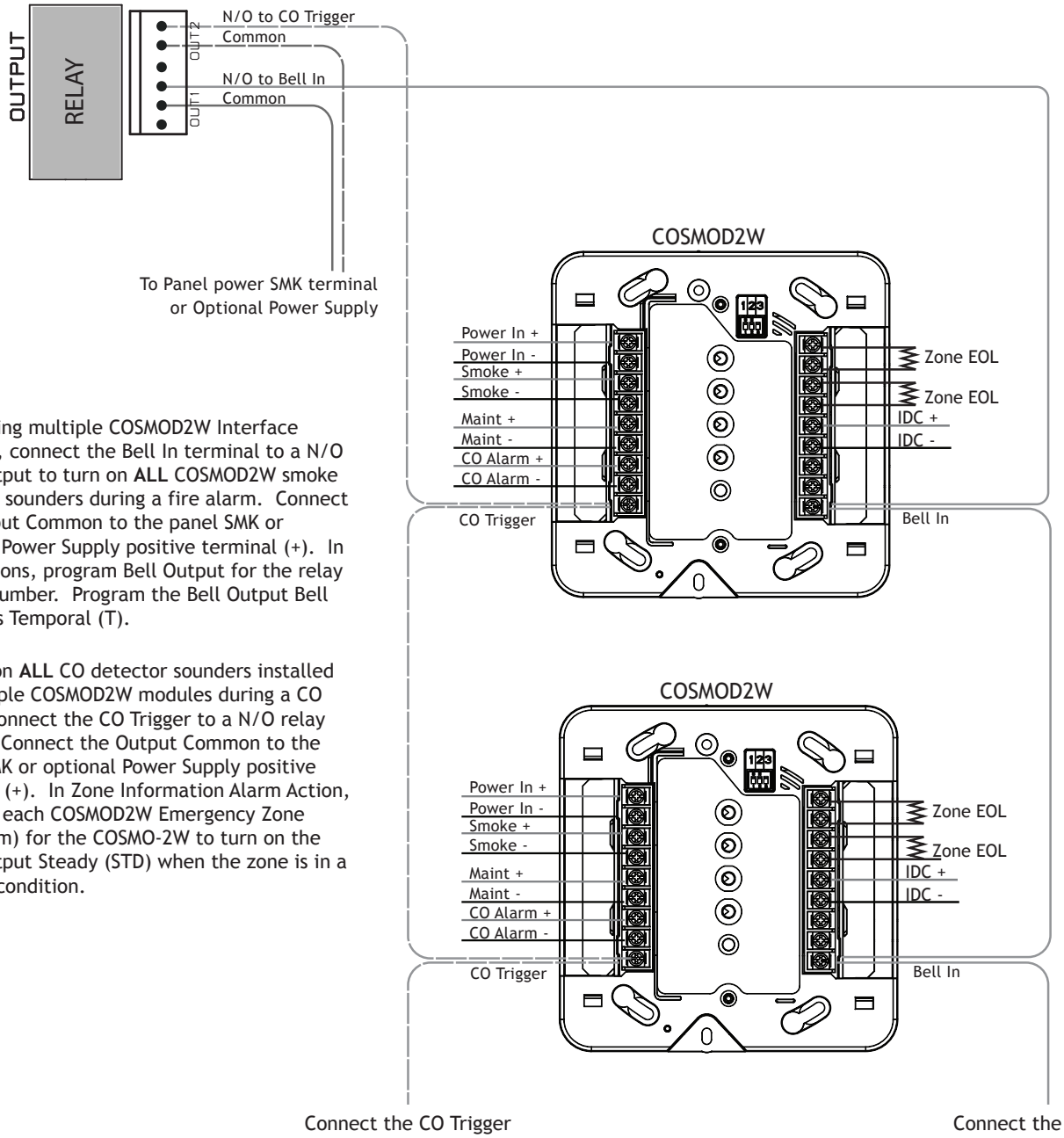




*** Listed for Fire Applications, output limited power, regulated

30.20 System Sensor i4 Series Smoke and CO Detectors Using Multiple COSMOD2W Modules

See i4 Series Interface Module Installation and Maintenance Instructions for additional information.



If installing multiple COSMOD2W Interface modules, connect the Bell In terminal to a N/O relay output to turn on **ALL** COSMOD2W smoke detector sounders during a fire alarm. Connect the Output Common to the panel SMK or optional Power Supply positive terminal (+). In Bell Options, program Bell Output for the relay output number. Program the Bell Output Bell Action as Temporal (T).

To turn on **ALL** CO detector sounders installed on multiple COSMOD2W modules during a CO alarm, connect the CO Trigger to a N/O relay output. Connect the Output Common to the panel SMK or optional Power Supply positive terminal (+). In Zone Information Alarm Action, program each COSMOD2W Emergency Zone (CO Alarm) for the COSMO-2W to turn on the relay output Steady (STD) when the zone is in a shorted condition.

Revisions to This Document

This section explains the changes that were made to this document during this revision. This section lists the version, section number with heading, and a quick summary of the change.

Version	Section Number and Heading	Summary of Changes
1.14	11.2 Compatible 2-Wire Smoke Detector Chart	Updated to current devices
	30.19 System Sensor i4 Series Smoke and CO Detectors Using A Single COSMOD2W Module	Added Wiring Diagram
	30.20 System Sensor i4 Series Smoke and CO Detectors Using Multiple COSMOD2W Modules	Added Wiring Diagram
1.13	1.5 LX-Bus	Added Model 2W-BLX and 2WT-BLX Smoke Detector references
	3.4 Accessory Devices	Added Model 2W-BLX and 2WT-BLX Smoke Detector references
	6.8 XR500 Series Power Requirements	Added Model 2W-BLX and 2WT-BLX Smoke Detector references
1.12	Complete Guide	Added 464 Series reference
	3.4 Accessory Devices	Updated for current product
	6.8 XR500FC Series Power Requirements	Updated for current product
1.11	1.5 LX-Bus	Added reference for Model 463C CDMA Cellular Communicator
	2.2 Zone Expansion	Added references for Model 463C CDMA Cellular Communicator
	3.4 Accessory Devices	Added reference for Model 463C CDMA Cellular Communicator
	4.4 Connecting the LX-Bus and Keypad Bus Devices	Added reference for Model 463C CDMA Cellular Communicator
	6.8 Power Requirements	Added reference for Model 463C CDMA Cellular Communicator
	15.3 LX-Bus Interface Card	Added reference for Model 463C CDMA Cellular Communicator
	23.8 Model 463G, 463C, CellCom, CELL Only, Standard Line Security	Added reference for Model 463C CDMA Cellular Communicator

Certifications

California State Fire Marshall (CSFM)
FCC Part 15
FCC Part 68 Registration ID CCKAL00BXR500
New York City (FDNY COA #6167)
Commercial and Residential Fire, Burglar, Holdup, and Access Protected Premise Unit
ANSI/UL 294 Access Control System Units
ANSI/UL 1076 Proprietary Burglar
ANSI/UL 1610 Central Station Burglar
ANSI/UL 2017 General Purpose Signaling Devices and Systems
ANSI/UL 985 Household Fire Warning
ANSI/UL 864 Fire Protective Signaling 9th Edition
Compatible with Devices listed for
ANSI/UL 268 Smoke-Automatic Fire Detectors
ANSI/UL 346 Waterflow Indicators for Fire Protective Signaling Systems
ANSI/UL 636 Holdup Alarm Units and Systems Accessory
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