

# 714-8/16 AND 715-8/16 ZONE EXPANDERS

## Installation Guide

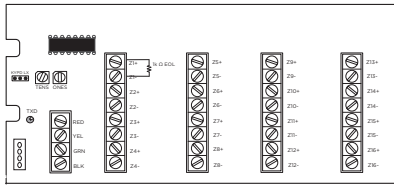


Figure 1: 714-16 Zone Expander

### DESCRIPTION

The 714-8 and 714-16 provide an additional eight or sixteen supervised zones for connecting burglary and non-powered fire alarm initiating devices to the panel.

The 715-8 and 715-16 provide an additional eight or sixteen 12 VDC ungrounded (Class B, Style A) powered zones for connecting two-wire smoke detectors.

The zone expanders provide terminal strips, a jumper for LX-Bus or Keypad Bus designation, and a transmit data LED to indicate panel communication.

All fire device installations must be in accordance with the manufacturer instructions, NFPA standards, and Authority Having Jurisdiction (AHJ) requirements.

### Compatibility

- XT30/XT50 Panels and XR150/XR550 Panels
- **714-8:** 1k-4.7k Ohm EOL (Lev E and higher)
- **714-16:** 1k Ohm EOL
- **715-8/715-16:** 3.3k Ohm

### What is Included?

- One 714-8, 714-16, 715-8, or 715-16 Zone Expander
- Eight or Sixteen 1K Ohm Resistors (714-8/714-16) or 3.3K Ohm Resistors (715-8/715-16)
- One Model 340 or 350 Enclosure with Lock and Key



## 1 PROGRAM THE PANEL

After completing each of the following steps, press **CMD** to advance to the next option. Refer to the panel programming guide as needed.

1. Reset the panel and enter **6653** (PROG) at a keypad.
2. In **ZONE INFORMATION**, program the expansion zones as any of the panel's burglary or fire zone types. You can also program zones as an Arming (**AR**) zone type when they are being used with key switches.
3. Press **CMD** until **STOP** displays. Press a top row select key or area to save programming.

## 2 MOUNT THE ENCLOSURE

Mount the enclosure in a secure, dry place. It is not necessary to remove the zone expander circuit board when installing the enclosure.

The enclosure can be surface or flush mounted using the holes provided. Each of the four sides have dual 1/2" and 3/4" conduit knockouts for running wires out of the enclosure. For more information, refer to Figure 2.

## 3 WIRE THE ZONE EXPANDER

The zone expanders provide a 3-pin header with jumper used to select the connection type.

To connect the expander to the Keypad Bus, place the jumper across the two leftmost pins. To connect the expander to the LX-Bus, place the jumper across the two rightmost pins. For more information, refer to Figure 2.

### Connect to the LX-Bus

To wire the 714-8/714-16, join the red, yellow, green, and black wires to a 4-wire harness and connect it to the LX-Bus.

To wire the 715-8/715-16, connect the red wire to panel Terminal 11 (Smoke power terminal). This allows Sensor Reset to drop power to the module and devices connected to its zones. Join the yellow, green, and black wires to a 4-wire harness and connect it to the LX-Bus.

## Connect the 714-8/714-16 to the Keypad Bus

1. Connect the red, yellow, green, and black wires to panel Terminals 7, 8, 9, and 10 respectively.
2. Observe polarity and wire the zones.
3. For 714-8 expanders with hardware Level E or higher, install any resistor from 1k-4.7k Ohm. For 714-8 expanders with hardware Level D or lower and 714-16 expanders, install the included 1K Ohm EOL resistors.

## Connect the 715-8/715-16 to the Keypad Bus

1. Connect the red wire to panel Terminal 11 (Smoke power terminal). This allows Sensor Reset to drop power to the module and devices connected to its zones. Alternately, connect red to a regulated, power limited power supply listed for Fire Protective Signaling through a Model 716 relay. Use the Sensor Reset Output programming to drop power to the expander.
2. Connect the yellow, green, and black wires to panel Terminals 8, 9, and 10 respectively.
3. Observe polarity and wire the zones.
4. Install the included 3.3K Ohm EOL resistors.

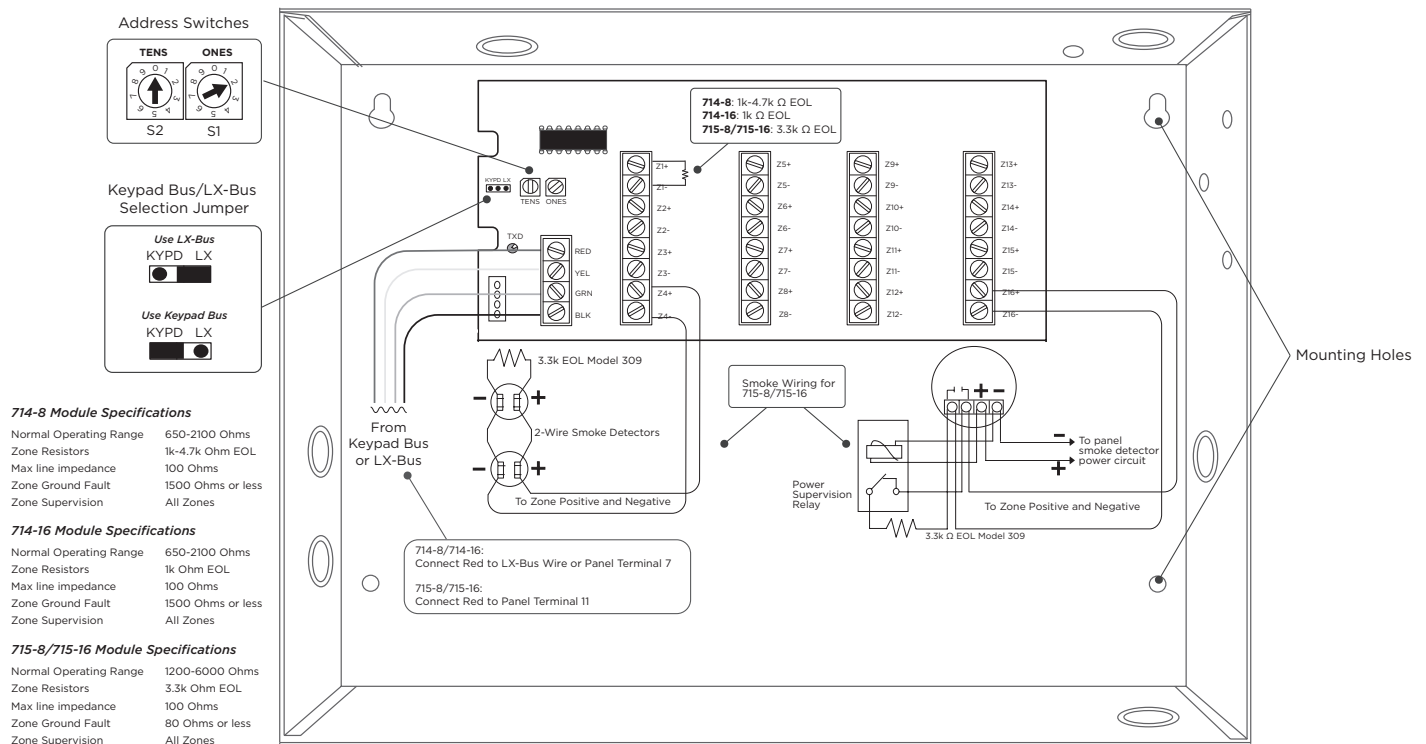


Figure 2: Zone Expander Wiring

# 4 SET THE ZONE EXPANDER ADDRESS

714-8/16 and 715-8/16 Point Zone Expanders use two rotary switches (TENS and ONES) to set the zone expander address.

For keypad bus addresses, the ONES switch must be set to a starting address that communicates the status of the first four zones (Z1 through Z4) on the expansion module. The next consecutive keypad address is automatically used to communicate the status of the next four zones (Z5 through Z8), etc. For example, when you set the TENS switch to 0 and the ONES switch to 2, the first four expander zones respond as zones 21 through 24. Expander zones 5 through 8 respond as panel zones 31 through 34, zones 9 through 12 respond as panel zones 41 through 44, and zones 13 through 16 respond as panel zones 51 through 54. Refer to Table 1.

For LX-Bus addresses, set the switches to match the second two digits of the first panel zone being used. The next 15 zone addresses communicate the status of the expander zones 2 through 16. For example, if you set the TENS switch to 3 and the ONES switch to 2, the sixteen zones on the expander respond as panel zones 532 to 547 when connected to LX500. When connected to LX600, the zones respond as 632 to 647. Refer to Table 2.

KEYPAD BUS ADDRESS	SWITCHES		ZONE NUMBERS	
	TENS	ONES	XT30/XT50 AND XR150 SERIES	XR550 SERIES
1	0	1	11 to 14	11 to 14
2	0	2	21 to 24	21 to 24
3	0	3	31 to 34	31 to 34
4	0	4	41 to 44	41 to 44
5	0	5	51 to 54	51 to 54
6	0	6	61 to 64	61 to 64
7	0	7	71 to 74	71 to 74
8	0	8	81 to 84	81 to 84
9	0	9	N/A	91 to 94
10	1	0	N/A	101 to 104
11	1	1	N/A	111 to 114
12	1	2	N/A	121 to 124
13	1	3	N/A	131 to 134
14	1	4	N/A	141 to 144
15	1	5	N/A	151 to 154
16	1	6	N/A	161 to 164

**Table 1: Keypad Bus Addresses and Corresponding Zone Numbers**

SWITCH		XR150/XR550 SERIES		XR550 SERIES							
TENS	ONES	LX500	ZONES	LX600	ZONES	LX700	ZONES	LX800	ZONES	LX900	ZONES
0	0	500	500 - 515	600	600 - 615	700	700 - 715	800	800 - 815	900	900 - 915
0	1	501	501 - 516	601	601 - 616	701	701 - 716	801	801 - 816	901	901 - 916
0	2	502	502 - 517	602	602 - 617	702	702 - 717	802	802 - 817	902	902 - 917
0	3	503	503 - 518	603	603 - 618	703	703 - 718	803	803 - 818	903	903 - 918
0	4	504	504 - 519	604	604 - 619	704	704 - 719	804	804 - 819	904	904 - 919
...	...	...	...	...	...	...	...	...	...	...	...
8	0	580	580 - 595	680	680 - 695	780	780 - 795	880	880 - 895	980	980 - 995
8	1	581	581 - 596	681	681 - 696	781	781 - 796	881	881 - 896	981	981 - 996
8	2	582	582 - 597	682	682 - 697	782	782 - 797	882	882 - 897	982	982 - 997
8	3	583	583 - 598	683	683 - 698	783	783 - 798	883	883 - 898	983	983 - 998
8	4	584	584 - 599	684	684 - 699	784	784 - 799	884	884 - 899	984	984 - 999

**Table 2: LX-Bus and Corresponding Zone Numbers**

## ADDITIONAL INFORMATION

### Wiring Specifications

DMP recommends using 18 or 22 AWG for all LX-Bus and Keypad Bus connections. The maximum wire distance between any module and the DMP Keypad Bus or LX-Bus circuit is 1,000 feet. To increase the wiring distance, install an auxiliary power supply, such as a DMP Model 505-12. Maximum voltage drop between a 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.

To maintain auxiliary power integrity when using 22-gauge wire on Keypad Bus circuits, do not exceed 500 feet. When using 18-gauge wire, do not exceed 1,000 feet. Maximum distance for any bus circuit is 2,500 feet regardless of wire gauge. Each 2,500 foot bus circuit supports a maximum of 40 LX-Bus devices.

For additional information refer to the LX-Bus/Keypad Bus Wiring Application Note (LT-2031) and the 710 Bus Splitter/ Repeater Module Installation Guide (LT-0310).

### LED Operation

The LED on the zone expanders flashes each time the zone expander responds to a poll from the panel. If there is a problem with the hardware, panel programming, or the green data wire between the panel and the zone expander zone expander, the LED stops flashing and System Trouble appears in the keypad display.

# COMPLIANCE LISTING SPECIFICATIONS

## UL Commercial Burglary

To comply with ANSI/UL 365 Police-Connected Burglary System or ANSI/UL 609 Local Burglary Alarm Systems, the zone expander must be mounted in the supplied, UL listed enclosure with a tamper.

## UL Commercial Fire

See the panel installation guide for details for selecting compatible 2-wire smoke detectors. Any auxiliary power supply used must be regulated, power limited and listed for Fire Protective Signaling.

## ULC Commercial Burglary (XR150/XR550 Series Panels)

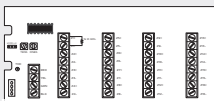
Place the zone expander zone expander in a listed enclosure and connect a DMP Model 307 Clip-on Tamper Switch to the enclosure programmed as a 24-hour zone.

The 714/715 zones can be installed in medium or high risk applications when two zones are used as shown in the Dual Zone Protection diagram in the XR150/XR550 Canadian Installation guide. Otherwise, 714/715 zones can only be used in low risk applications.

## ULC Residential Fire (XR150/XR550 Series Panels)

Refer to the appropriate panel compliance listing guide for the complete list of UL approved smoke detectors.

## 714-8/16 AND 715-8/16 ZONE EXPANDERS



### Specifications

Operating Voltage	8.8 to 15.0 VDC
Operating Current	
714-8/16	
Average	20 mA + 1.6 mA per zone
Alarm	20 mA + 2 mA per zone
715-8/16	
Average	20 mA + 4 mA per zone + 0.1 per 2-wire smoke
Alarm	20 mA + 58 mA per shorted zone + 0.1 per 2-wire smoke + 30 mA per smoke in alarm
Dimensions	
340 Enclosure	12.50" W x 9.50" H x 2.85" D
350 Enclosure	17.50" W x 13.50" H x 3.50" D

### Ordering Information

714-8	714-8 in gray Model 340 enclosure
714-8-R	714-8 in red Model 340 enclosure
714-8L-G	714-8 in gray Model 350 enclosure
714-8L-R	714-8 in red Model 350 enclosure
714-8PCB	714-8 PCB only
714-16	714-16 in gray Model 340 enclosure
714-16-R	714-16 in red Model 340 enclosure
714-16L-G	714-16 in gray Model 350 enclosure
714-16L-R	714-16 in red Model 350 enclosure
714-16PCB	714-16 PCB only
715-8	715-8 in red Model 340 enclosure
715-8PCB	715-8 PCB only
715-16	715-8 in red Model 340 enclosure
715-16PCB	715-16 PCB only

### Accessories

340-G	Panel Enclosure, gray
340-R	Panel Enclosure, red
350 -G	Large Panel Enclosure, gray
350-R	Panel Enclosure, red
350-GCAN	Panel Enclosure, gray (Canada)
351ONQ	ONQ wiring enclosure mounting plate
351PRI	PRI wiring enclosure mounting plate
354	Retrofit Mounting Plate
354A	Retrofit Mounting Plate

### Certifications

California State Fire Marshal (CSFM)	
New York City (FDNY COA #6167)	
Underwriters Laboratory (UL) Listed	
ANSI/UL 365	Police Station Connect Burglar Alarm Systems
ANSI/UL 609	Local Burglar Alarm Units & Systems
ANSI/UL 864	Fire Protective Signaling Systems
ANSI/UL 985	Household Fire Warning System Units
ANSI/UL 1023	Household Burglar Alarm System Units
ANSI/UL 1076	Proprietary Burglar Alarm Units & Systems
ANSI/UL 1610	Central Station Burglar Alarm Units
ANSI/UL 1635	Digital Alarm Communication System Units
ULC Subject-C1023	Household Burglar
ULC/ORD-C1076	Proprietary Burglar
ULC S304	Central Station Burglar
ULC S545	Household Fire



Designed, engineered, and manufactured in Springfield, MO using U.S. and global components.

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