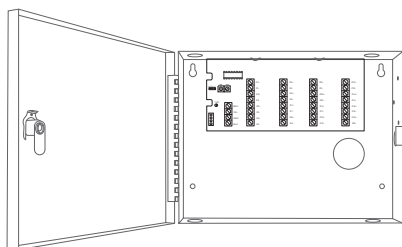


# 714-8/16 AND 715-8/16 ZONE EXPANDERS

## Installation Guide



### DESCRIPTION

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

The 715-8 and 715-16 provide an additional eight or sixteen 12 VDC ungrounded (Class B) 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 Series Panels
- XR150/XR550 Series Panels
- XF6 Series Fire Control 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

Refer to the panel programming guide as needed.

1. Reset the panel and enter **6653** (PROG) at a keypad. Press **CMD**.
2. In **DEVICE SETUP**, program the expansion module as an **EXP** (Expander) device. Program one device for every four zones on the zone expander.
3. 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.
4. 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 in. and 3/4 in. conduit knockouts for running wires out of the enclosure.

## 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 1.

#### 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, the expander will read any resistor from 1k-4.7k Ohms without additional programming. For 714-8 expanders with hardware Level D or lower and 714-16 expanders, install the included 1K Ohm EOL resistors.



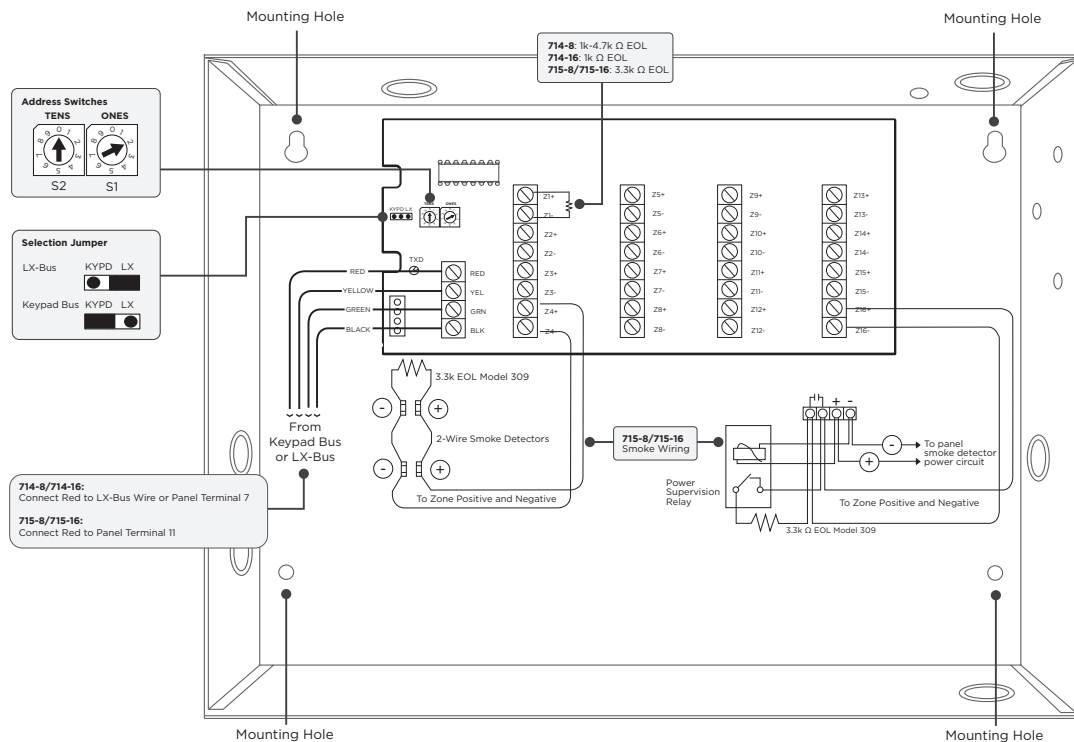
**Note:** You may use the header instead of the terminal to connect the expander to the panel.

## 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.

SPECIFICATIONS	714-8 MODULE	714-16 MODULE	715-8/715-16 MODULE
Normal Operating Range	650-2100 Ohms	650-2100 Ohms	1200-6000 Ohms
Zone Resistors	1k-4.7k Ohm EOL	1k Ohm EOL	3.3k Ohm EOL
Max Line Impedence	100 Ohms	100 Ohms	100 Ohms
Zone Supervision	All Zones	All Zones	All Zones

Table 1: Zone Expander Specifications



## 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 2.

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 3.

KEYPAD BUS ADDRESS	SWITCHES		ZONE NUMBERS	
	TENS	ONES	XT30/XT50, XR150, AND XF6-100 SERIES	XR550 AND XF6-500 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		91 to 94
10	1	0		101 to 104
11	1	1		111 to 114
12	1	2		121 to 124
13	1	3		131 to 134
14	1	4		141 to 144
15	1	5		151 to 154
16	1	6		161 to 164

**Table 2: Keypad Bus Addresses and Corresponding Zone Numbers**

SWITCH		XT75	XR150 AND XF6150	XR550 AND XF6500				
TENS	ONES	LX	LX500	LX500	LX600	LX700	LX800	LX900
0	0	500	500	500	600	700	800	900
0	1	501	501	501	601	701	801	901
0	2	502	502	502	602	702	802	902
0	3	503	503	503	603	703	803	903
0	4	504	504	504	604	704	804	904
0	5	505	505	505	605	705	805	905
0	6	506	506	506	606	706	806	906
...	...	...	...	...	...	...	...	...
4	7	547	547	547	647	747	847	947
4	8	548	548	548	648	748	848	948
4	9	549	549	549	649	749	849	949
...	...		...	...	...	...	...	...
9	8		598	598	698	798	898	998
9	9		599	599	699	799	899	999

**Table 3: 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 or a DMP PS12-5. 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, the LED stops flashing and System Trouble appears in the keypad display.

## COMPLIANCE INFORMATION

### *UL Commercial Burglary*

To comply with ANSI/UL 365 Police-Connected Burglary System or ANSI/UL 609 Local Burglar 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.

#### Panel

XR150/XR550	Compatibility ID = A
XF6-100/XF6-500	Compatibility ID = A

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

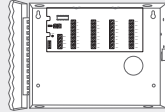
Place the zone expander zone expander in a listed enclosure and connect a DMP Model 307 Clip-on Tamper Switch to the enclosure programmed as a 24-hour zone.

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
Zone Operating Voltage	9.7 to 14.0 vdc
Operating Current	
<b>714-8/16</b>	
Average Alarm 2	20 mA + 1.6 mA per zone 0 mA + 2 mA per zone
<b>715-8/16</b>	
Average Alarm	20 mA + 4 mA per zone + 0.1 per 2-wire smoke 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 in.
350 Enclosure	17.50 W x 13.50 H x 3.50 D in.

### *Compatibility*

XT Series Panels and XR Series Panels  
XF6 Series Fire Control Panels  
**714-8:** 1k-4.7k Ohm EOL (Lev E and higher)  
**714-16:** 1k Ohm EOL  
**715-8/715-16:** 3.3k Ohm

### *Certifications*

California State Fire Marshal (CSFM)

New York City (FDNY)

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
ULC Subject-C1023	Household Burglar
ULC/ORD-C1076	Proprietary Burglar
ULC S304	Central Station Burglar
ULC S304	Household Fire



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