Description

The Model 714-8, 714-16, 715-8, and 715-16 Zone Expanders allow you to increase the number of protection zones available on a DMP Command Processor™ Panel. The 714-8 and 714-16 provide an additional eight or sixteen 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) powered zones for connecting two-wire smoke detectors.

Each of the zone expanders provide terminal strips for zone inputs and data bus connections, a two position jumper to designate connection to the Keypad bus or the LX-Bus, and a transmit data LED to indicate panel communication. The expanders are mounted in a Model 340 enclosure with lock. Separate zone end-of-line resistors and a key are included.

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

Mounting the Enclosure

The metal enclosure for the zone expanders must be mounted in a secure, dry place to protect from damage due to tampering or the elements. It is not necessary to remove the zone expander PC board when installing the enclosure. See Figure 1 for enclosure mounting.

4-Wire Bus Wiring

Each zone expander can connect to the Keypad bus of an XR20 or XR200. Also, the zone expander can connect to the LX-Bus of an XR200. Connect the 4-wire bus to J5 of the zone expander as shown in Figure 6. All circuits are power limited.

When wiring the zone expander to an XR200 Command Processor panel with an LX-Bus, an LX-Bus Expansion Interface Card is required (e.g. 481, 462P, 462N, or 472).

The maximum distance for any one Keypad bus or LX-Bus circuit is 2,500 feet. To increase the wiring distance, you must install a DMP **710 Bus Splitter/Repeater Module**. Refer to the 710 Module Installation Sheet (LT-0310) for complete information.
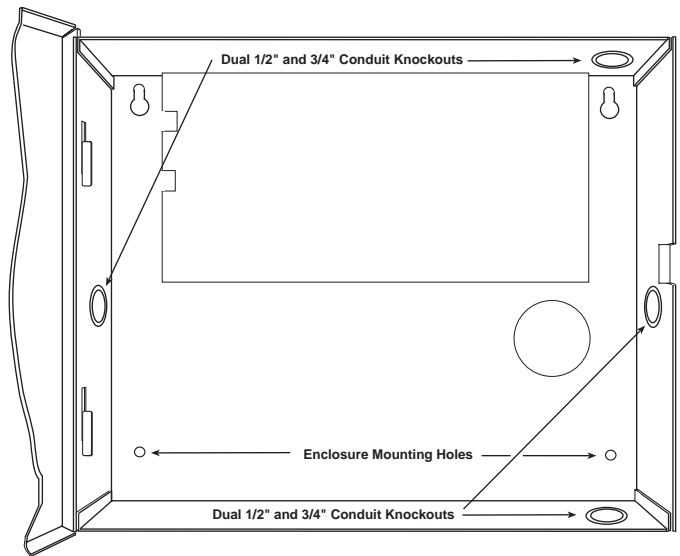

Figure 1: 340 enclosure mounting

Keypad or LX-Bus Setting

Each of the zone expanders provide a three pin header with jumper (J2) that selects the type of bus connection to the Command Processor panel. Place the jumper on the appropriate pins that correspond to the bus type you are connecting.

Figure 2: Bus jumper

Address Setting

Each zone expander has two rotary switches labeled TENS and ONES to set the expander address from 00 to 99.

To set the address, use a small slotted screwdriver and gently turn the center arrow on the switch clockwise to the number that matches the address. See Figure 3.
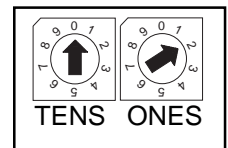

Figure 3: Address switches

Power Requirements

Model	714-8	714-16	715-8	715-16
Operating Voltage	12VDC nominal	12VDC nominal	12VDC nominal	12VDC nominal
Operating Current	20mA	20mA	20mA	20mA
Per Zone Current	1.6mA	1.6mA	4mA*	4mA*

* Add 30 mA per smoke detector in alarm
Add 58 mA per zone short alarm (pull stations, heat detectors, and other shorting devices)

Keypad Bus Addressing

When connecting to the panel 4-wire Keypad bus, the TENS rotary switch must always be set to 0. The ONES rotary switch must be set to a **starting** address which will communicate the status of the first four zones (Z1-Z4). The next consecutive keypad address will **automatically** be used to communicate the status of the next four zones (Z5-Z8), etc. For example, when you set the ONES switch to 5 (so it looks like 05), the first four zones on the expander respond as zones 51 to 54. Expander zones Z5-Z8 respond as panel zones 61 to 64; zones Z9-Z12 respond as panel zones 71 to 74; and zones Z13-Z16 respond as panel zones 81 to 84.

Start Address		Expander Zones			
		1-4	5-8	9-12	13-16
TENS	ONES	Panel Zones			
0	1	11-14	21-24	31-34	41-44
0	2	21-24	31-34	41-44	51-54
0	3	31-34	41-44	51-54	61-64
0	4	41-44	51-54	61-64	71-74
0	5	51-54	61-64	71-74	81-84
0	6	61-64	71-74	81-84	None
0	7	71-74	81-84	None	None
0	8	81-84	None	None	None

Keypad bus rotary switch settings

LX-Bus Addressing

When connecting to the panel LX-Bus, the rotary switch settings on the expanders are easy to set as they must match the second two digits of the first panel zone being used. The next 15 zone addresses are **automatically** used to communicate the status of the expander zones Z2-Z16. For example, if you set the TENS switch to 3 and the ONES switch to 2 (so it looks like 32), the sixteen zones on the expander respond as panel zones 132 to 148. When connected to LX-Bus 2, the zones respond as 232 to 248.

Start Address		Panel Zone Range	
TENS	ONES	LX-Bus1	LX-Bus 2
0	0	100-115	200-215
0	1	101-116	201-216
0	2	102-117	202-217
0	3	103-118	203-218
0	4	104-119	204-219
. . .	. . .	. . .	. . .
9	5	195-199	295-299
9	6	196-199	296-299
9	7	197-199	297-299
9	8	198-199	298-299
9	9	199	299

LX-Bus rotary switch settings

3.3k EOL Model 309

Class B, Style A for 715 - 8 or -16

2-wire smoke detectors

To zone positive and negative

Power Supervision Relay

4-wire Smoke Detector

Refer to LT-0164 Complatibility Sheet for UL Listed fire products.

To control panel smoke detector power circuit

To zone positive and negative

1k Model 310 for 714-8, -16
3.3k Model 309 for 715-8, -16
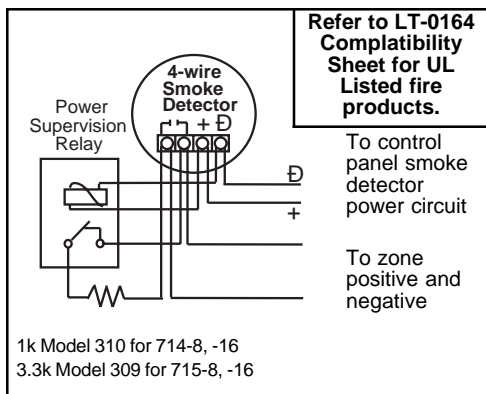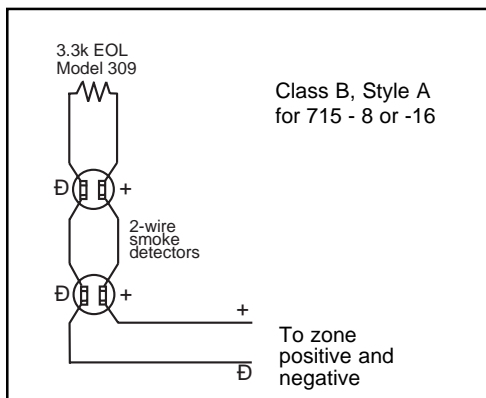
Figure 6: Zone Expander module wiring diagram

714-8 or -16 uses 1k EOL - For UL listed fire applications use Model 310
715-8 or -16 uses 3.3k EOL - Model 309
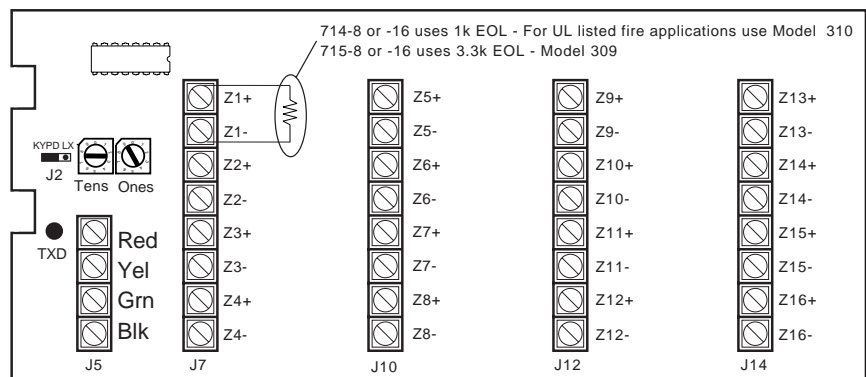
See control panel installation guide for approved 2-wire smoke detectors.

XR20   LT-0229
XR200   LT-0197

Maximum line resistance = 100 ohms.

All circuits are supervised and power limited.

Note: For UL Listed fire applications, the wiring connection must be 18 gauge or greater, unless the wire complies with the requirements of NEC 1999, and the wiring consists of two or more insulated conductors under a nonmetalic jacket.