N8281V1 5/01 Rev. B

Honeywell

4209U
Universal Group Zoning Multiplex Module

INSTALLATION AND SETUP GUIDE

FEATURES

The ADEMCO 4209U Group Zoning Multiplex Module is a 4-zone expander that allows use of available expansion zones provided by ADEMCO controls that support polling loop devices. Its primary purpose is to provide additional 2-wire smoke detector loops to the control. Other devices may be used, but all zones must be programmed for a fire response type. Characteristics of this device include:

- Uniquely identifies 4 supervised zones or 2 supervised zones in the "grouped" mode (groups two supervised zones together into one zone).
- Supports up to 16 2-wire smoke detectors on each of its 4 loops, regardless of group setting.
- DIP Switches can be used to set zone numbers or serial numbers.
- When used in the serial number mode, each serial number in the selected group can be assigned to any zone number.
- Tamper protected.

MOUNTING

⚠	1. **Power should be disconnected before proceeding.** 2. **Be sure to mount the 4209U before making any wire connections.**

When mounted remotely tamper protection is required. Holes on the back of the module's housing permit it to be mounted horizontally or vertically. Wires can exit from the side or the breakout on the back of its housing. To enable tamper protection, set DIP Switch 8 to OFF and attach the tamper magnet (provided) (Figure 1) to the module inside cover. Be sure to enable the expansion zone tamper option at the control (program field *24 = 0). When the installation is complete install the cover and affix the Serial Number and Zone Assignment Tables to the inside cover of the control. If the modules cover is removed, the magnet attached to the cover, positioned near the reed switch, will cause a tamper signal to be sent to the control for every active zone on the 4209U module.

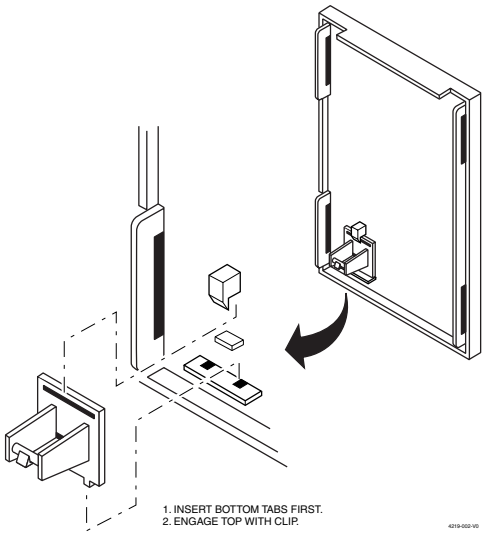

Figure 1. Tamper Magnet Installation

✓ **For all fire alarm (NFPA) certified installations, the 4209U must be tamper protected or mounted in a tamper-protected cabinet.**

When the module is to be mounted inside the control's cabinet tamper protection is not required if the cabinet is supervised. Insert self-tapping screws (provided) in two adjacent raised tabs at the back of the cabinet, leaving the heads projecting 1/8". Hang the module on the screw heads via the two slotted holes on the back of the module's housing. When the installation is complete install the cover and affix the Serial Number and Zone Assignment Tables to the inside cover of the control.

WIRING

CE	**For CE installations ADEMCO N6361 EMI suppression bead is required. Refer to the N6361 installation guide for wire routing instructions.**

Polling loop and protection loop wires can be brought in either through the back or front of the unit by removing the knockouts. Use 22 gauge twisted pair wire for polling loop connections. All protection loops use 2k EOL resistors (included). A maximum resistance of 100 ohms is allowed on protection loops (excluding EOLR). See Figure 2 for all connections. Keep in mind that even in the grouped mode, each set of terminals must have its own 2k EOLR, and it must be connected across the loop wires at the last detector.

Power Connections must be made so that power to the smoke detectors can be momentarily interrupted to clear the alarm. This can be done either via the control's auxiliary relay (if supported) or through a relay on a 4204 relay module.

Wire the common of the relay to 12VDC and the N.C. contact on the 4209U (TB2, terminal 3). The relay you use must be programmed for "Smoke Protector Reset" (see control panel's instructions). When you reset an alarm at the keypad, the relay arm will swing momentarily to the N.O. contact, causing an interruption of power.

DIP SWITCH SETTINGS

ZONE ASSIGNMENT MODE:

In the zone assignment mode, the DIP Switches on the 4209U are used to assign the unit to a group of 4 consecutive zones in the "non-grouped" mode, or 2 consecutive zones in the "grouped" mode. These zone numbers, once designated for the 4209U, cannot be used for anything else, even if you don't use them all. Follow the steps below using Table 1 for DIP Switch settings.

Serial Number Mode:

In the serial number mode, the DIP Switches on the 4209U are used to assign the unit to a group of 4 serial numbers, or 2 serial numbers in the "grouped" mode. You can assign any serial number to any zone number (except hardwire zone numbers on the control) and you do not lose zone numbers if you don't use all 4 loops on the 4209U. Follow the steps below using Table 2 for DIP Switch settings.

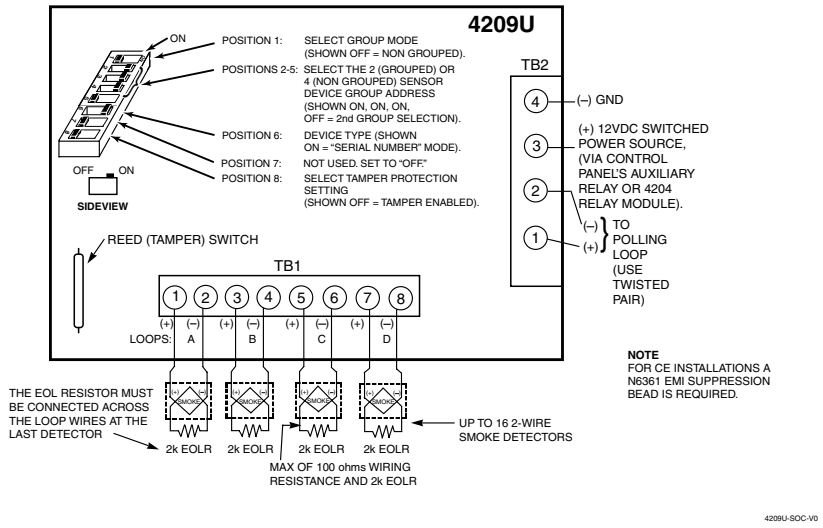

Figure 2: Summary of Connections

<u>For "Zone Assignment" mode, DIP Switch position 6 must be off.</u>

When using this mode, program each zone's "Input Type" as "DIP Switch Polling Loop Device" (DP), where applicable.

THIS SWITCH SETTING PRESETS THE LOOPS TO THESE ZONE NUMBERS											
DIP Switch Position ("-" Means "off")					Loop Number						
					NON-GROUPED				GROUPED		
2	3	4	5	6	Loop A	Loop B	Loop C	Loop D	Loop A&B	Loop C&D	
On	On	On	On	-	1	2	3	4	1	2	**
On	On	On	-	-	9	10	11	12	9	10	
On	On	-	On	-	17	18	19	20	17	18	
On	On	-	-	-	25	26	27	28	25	26	
On	-	On	On	-	33	34	35	36	33	34	
On	-	On	-	-	41	42	43	44	41	42	
On	-	-	On	-	49	50	51	52	49	50	
On	-	-	-	-	57	58	59	60	57	58	
-	On	On	On	-	65	66	67	68	65	66	
-	On	On	-	-	73	74	75	76	73	74	
-	On	-	On	-	81	82	83	84	81	82	
-	On	-	-	-	89	90	91	92	89	90	
-	-	On	On	-	97	98	99	100	97	98	
-	-	On	-	-	105	106	107	108	105	106	
-	-	-	On	-	113	114	115	116	113	114	***
-	-	-	-	-	121	122	123	124	121	122	

Zone Number

*Do not select 1 – 4 for VISTA controls.
**If 9 – 12 is selected for controls that have 9 hardwire zones. First Loop (Zone 9) will be inactive.
***4209U also accommodates option "ONE 4208 IN USE" if referred to in control programming.
NOTE: Consult the Control Panel Instructions to determine the valid zone numbers for that control panel.

Table 1. 4209U Zone Number Assignments

<u>For "Serial Number" mode, DIP Switch position 6 must be on.</u>

THIS SWITCH SETTING PRESETS THE LOOP TO THESE SERIAL NUMBERS										
DIP Switch Position ("-" Means "off")					Loop Serial Number (Each serial number in the selected group can be assigned to any zone number.)					
					NON-GROUPED				GROUPED	
2	3	4	5	6	LOOP A	LOOP B	LOOP C	LOOP D	LOOP A&B	LOOP C&D
ON	ON	ON	ON	ON	000-0004	000-0005	000-0006	000-0007	000-0004	000-0005
ON	ON	ON	-	ON	006-9908	006-9909	006-9910	006-9911	006-9908	006-9909
ON	ON	-	ON	ON	013-9812	013-9813	013-9814	013-9815	013-9812	013-9813
ON	ON	-	-	ON	020-9716	020-9717	020-9718	020-9719	020-9716	020-9717
ON	-	ON	ON	ON	027-9620	027-9621	027-9622	027-9623	027-9620	027-9621
ON	-	ON	-	ON	034-9524	034-9525	034-9526	034-9527	034-9524	034-9525
ON	-	-	ON	ON	041-9428	041-9429	041-9430	041-9431	041-9428	041-9429
ON	-	-	-	ON	048-9332	048-9333	048-9334	048-9335	048-9332	048-9332
-	ON	ON	ON	ON	055-9236	055-9237	055-9238	055-9239	055-9236	055-9237
-	ON	ON	-	ON	062-9140	062-9141	062-9142	062-9143	062-9140	062-9141
-	ON	-	ON	ON	069-9044	069-9045	069-9046	069-9047	069-9044	069-9045
-	ON	-	-	ON	076-8948	076-8949	076-8950	076-8951	076-8948	076-8949
-	-	ON	ON	ON	083-8852	083-8853	083-8854	083-8855	083-8852	083-8853
-	-	ON	-	ON	090-8756	090-8757	090-8758	090-8759	090-8756	090-8757
-	-	-	ON	ON	097-8660	097-8661	097-8662	097-8663	097-8660	097-8661
-	-	-	-	ON	104-8564	104-8565	104-8566	104-8567	104-8564	104-8565

Table 2. 4209U Serial Number Assignments

Set the DIP switches on the 4209U as instructed below:

1. Select "grouped" or "non-grouped" mode using DIP Switch 1: Grouped = ON Non-grouped = OFF.
2. Select mode of operation (serial number or zone assignment mode) using DIP Switch 6: Serial Number mode = ON Zone Assignment mode = OFF.
3. Select the group setting using DIP Switches 2, 3, 4, and 5. See Table 1 for zone assignments or Table 2 for serial number assignments. If using more than one 4209U, be sure to set each one to a different group setting.
4. DIP Switch 7: Not used, set to OFF.
5. Select the 4209U Tamper Protection setting using DIP Switch 8: Tamper Disabled = ON Tamper Enabled = OFF. Tamper will report for every active zone on the 4209U module.

PROGRAMMING

All zones assigned to the 4209U must be programmed as Fire zones (zone type 09 or 16).

When setting the 4209U to a group of zone numbers, each zone must be programmed as follows:

- On 4140XMP and earlier controls, these zones must be programmed as Left Loop Polling Loop Zones.
- On VISTA-40 and later controls, these zones must be programmed in the #93 Menu Mode Zone Programming as INPUT TYPE "7" – DP (DIP Switch type polling device).

When setting the 4209U to a group of ***serial numbers***, each zone must be programmed as INPUT TYPE "6" --SL (Serial Number Polling Loop Device). Loops can be learned in any order and assigned to any legitimate zone number.

When prompted to learn the serial number for a particular zone, you may either enter it manually through the keypad or through V-Link, or "learn" it by momentarily faulting (shorting) the terminals of that zone as required by the control. If entering a serial number manually through the keypad, enter it and press "*" to advance to the next prompt. Make sure you also enter the loop number of the device you are using for that zone (see the control's instructions for more details about learning serial numbers). If learning or entering a serial number, and the message "Duplicate of Zone XX" is displayed, another device with that same serial number is already in the system. In that case, use a different serial number group setting on the 4209U.

If learning a serial number by faulting its associated loop, make sure that other polling loop devices are not activated, as they may interfere with the device being learned.

VERIFICATION OF PROGRAMMING

To verify proper programming, the following test should be performed:

1. Be sure to enable expansion zone tamper protection at the control (program field *24 = 0).
2. Set DIP Switch 8 to OFF (tamper enabled).
3. Replace the 4209U cover and clear the keypad of any faulted zones.
4. Remove the 4209U's cover and verify (on the keypad) that only the zones you designated for this 4209U are indicating a check (or trouble) condition.

Ionization, direct wire	System Sensor 1100
Ionization with B110LP base	System Sensor 1151
Ionization, direct wire	System Sensor 1400
Ionization with B401B base	System Sensor 1451
Ionization duct detector w/ DH400 base	System Sensor 1451DH
Photoelectric, direct wire	System Sensor 2100
Photoelectric w/heat sensor, direct wire	System Sensor 2100T
Photoelectric w/B110LP base	System Sensor 2151
Photoelectric, direct wire	System Sensor 2400
Photoelectric w/heat sensor, direct wire	System Sensor 2400TH
Photoelectric w/B401B base	System Sensor 2451
Photoelectric w/heat sensor and B401B base	System Sensor 2451TH
Photoelectric dust detector w/ DH400 base	System Sensor 2451DH

Table 3. Compatible 2-Wire Smoke Detectors

Current Draw (All zones shorted) (Input Voltage: 11 – 14VDC)	
From Polling Loop	From Switched Power
15.5mA	110mA

Table 4. Current Draw Calculations

SPECIFICATIONS

Physical:

Width: 6-7/16"(163mm)

Height: 4-1/4" (108mm)

Depth: 1-1/4" (32mm)

Electrical:

Polling loop input: 6.7 – 14 VDC

Switched Power Input: 10.2 to 14VDC

Current draw: 15.5mA max. from polling loop, 110mA max. from switched power source (see Table 4)

Sensor Loop Response:

400 msec (all loops)

Sensor Loop Current @ switched power input of 12VDC:

7.7mA (normal)

25mA (shorted)

Sensor Loop Max. Resistance:

Up to 100 ohms of wire resistance + 2k EOLR.

LIMITED WARRANTY

Honeywell International Inc., 165 Eileen Way, Syosset, New York 11791, warrants its product(s) to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 24 months from the date stamp control on the product(s) or, for product(s) not having a date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any product(s) which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product(s) is altered or improperly repaired or serviced by anyone other than Honeywell factory service. For warranty service, return product(s) transportation prepaid, to Honeywell Factory Service, 165 Eileen Way, Syosset, New York 11791.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

Seller does not represent that the product(s) it sells may not be compromised or circumvented; that the product(s) will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the product(s) will in all cases provide adequate warning or protection. Customer understands that a properly installed and maintained alarm system may only reduce the risk of a burglary, robbery, fire, or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THAT THE PRODUCT(S) FAILED TO GIVE WARNING. HOWEVER, IF SELLER IS HELD LIABLE, WHETHER DIRECTLY OR INDIRECTLY, FOR ANY LOSS OR DAMAGE ARISING UNDER THIS LIMITED WARRANTY OR OTHERWISE, REGARDLESS OF CAUSE OR ORIGIN, SELLER'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT(S), WHICH SHALL BE THE COMPLETE AND EXCLUSIVE REMEDY AGAINST SELLER.

This warranty replaces any previous warranties and is the only warranty made by Seller on this product(s). No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacture's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

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

"Interference Handbook"

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

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

SEE THE CONTROL PANEL'S INSTALLATION INSTRUCTIONS FOR COMPLETE INFORMATION REGARDING THE LIMITATIONS OF THE ENTIRE SECURITY SYSTEM.

Honeywell

165 Eileen Way, Syosset, NY 11791

www.honeywell.com/security

N8281V1 5/01 Rev. B