

Alliance AL-4017/AL-4617 Control Panel
Installation Manual



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Intended use Use this product only for the purpose it was designed for; refer to the data sheet and user documentation. For the latest product information, contact your local supplier or visit us online at www.fireandsecurity.com

FCC compliance Part 15 notification

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: In order to maintain compliance with FCC Class B rules, shielded cable must be used (Belden 8723 or equivalent).

Part 68 notification

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the inside of the door of the enclosure of this equipment is a label that contains, among other information, a product identifier in the format. US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

The 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. 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. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ#T#XXXX, the digits represented by ## are the REN without a decimal point (e.g. 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

If this equipment 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 this equipment, for repair or warranty information, please contact UTC Fire & Security technical support. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is solved.

This equipment must have the ability to seize the line in the event of an emergency. Do not connect this equipment to a party line service as line seizure is not possible.

For automatic dialers, when programming emergency numbers and (or) making test calls to emergency numbers:

1. Remain on the line and briefly explain to the dispatcher the reason for the call.
2. Perform such activities in the off-peak hours, such as early morning or late evenings.

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Preface

This is the *Alliance AL-4017/AL-4617 Control Panel Installation Manual* for models AL-4017 and AL-4617. This document includes an overview of the product and detailed instructions explaining:

- how to install; and
- how to wire the units.

There is also information describing how to contact technical support if you have questions or concerns.

To use this document effectively, you should have the following minimum qualifications:

- a basic knowledge of Alliance systems; and
- a basic knowledge of electrical wiring and low-voltage electrical connections.

Read these instructions and all ancillary documentation entirely **before** installing or operating this product. The most current versions of this and related documentation may be found on our website. Refer to [Online publication library](#) on page 22 for instructions on accessing our online publication library.

Note: A qualified service person, complying with all applicable codes, should perform all required hardware installation.

Conventions used in this document

The following conventions are used in this document:

Bold	Menu items and buttons.
<i>Italic</i>	Emphasis of an instruction or point; special terms.
	File names, path names, windows, panes, tabs, fields, variables, and other GUI elements.
	Titles of books and various documents.
<i>Blue italic</i>	(Electronic version.) Hyperlinks to cross-references, related topics, and URL addresses.
R~^~b*á´æÃ	Text that displays on the computer screen.
	Programming or coding sequences.

Safety terms and symbols

These terms may appear in this manual:



CAUTION: *Cautions* identify conditions or practices that may result in damage to the equipment or other property.



WARNING: *Warnings* identify conditions or practices that could result in equipment damage or serious personal injury.

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Product overview

Alliance is a scalable access control platform integrated with an intrusion alarm package. The Alliance control panels use a modular RS-485 data bus to provide continuous polling of remote arming stations (RAS) and data control panels (DGP). These devices extend the system's security and access control functions.

AL-4017. Alliance control panel with 1 A maximum current output.

AL-4617. Alliance control panel with 3 A maximum current output.

Memory expansion options

Table 1 shows the memory expansion modules you can use for your application.

Table 1. Memory expansion options

Category	Without memory expansion	Memory expansion module		
		AL-1830 1M	AL-1831 4M	AL-1832 8M
Users	50	11, 466	17, 873	65, 535
Door groups	10	128	128	128
Floor groups	10	64	64	64
History				
Alarm system events	100	1, 000	1, 000	1, 000
Access control events	100	1, 000	1, 000	1, 000

Product contents

The control panel ships with the following:

- control panel board
- two-position and three-position terminal blocks that can be combined to provide a variety of terminal block configurations;
- clip-in and screw-in male/female standoffs;
- battery wires; and
- mounting screws

Inspect the package and contents for visible damage. If any components are damaged or missing, do not use the unit; contact the supplier immediately. If you need to return the unit, you must ship it in the original box.

References and related documentation

- *Alliance System Programming Manual*

Installation

To install the control panel, do the following:

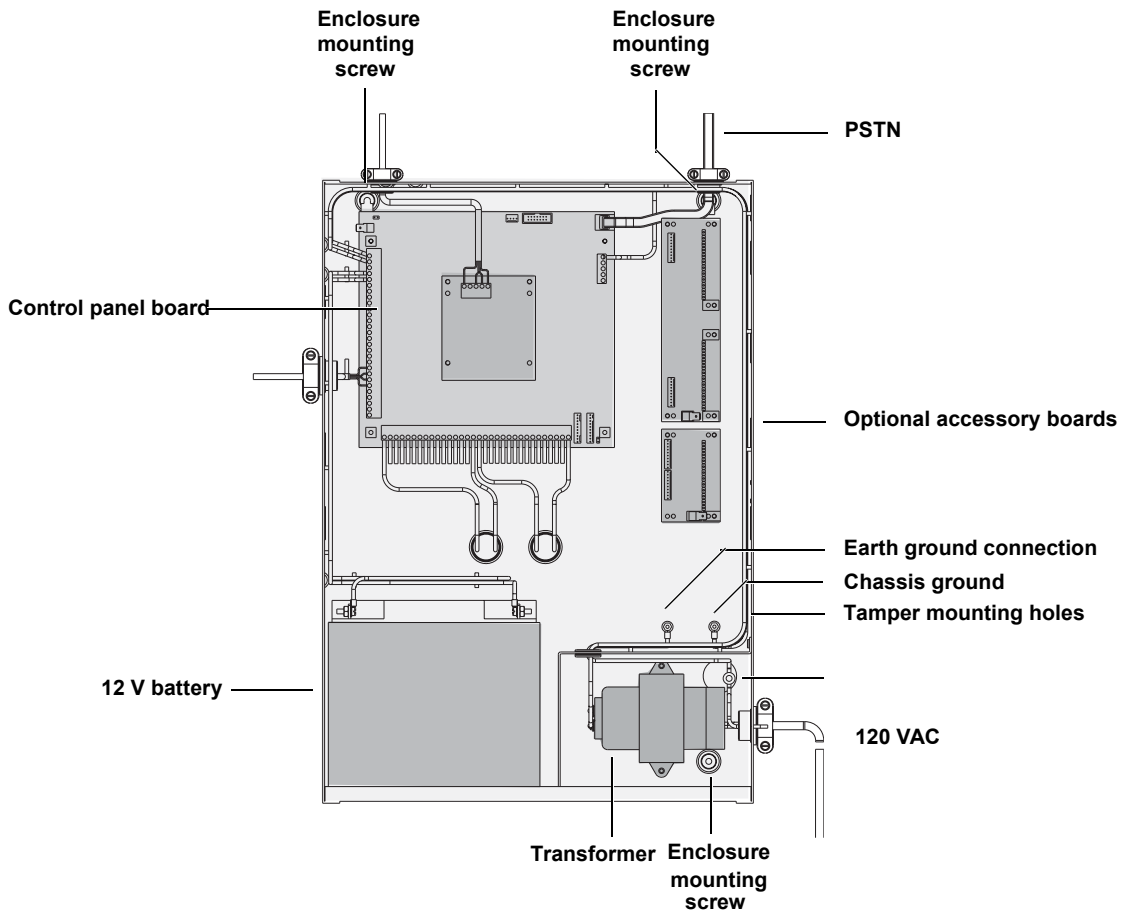
1. Mount the enclosure. A suitable location should include easy access for wiring, good lighting, suitable access to power and earth ground, and ample space to work. The mounting surface should be flat and dry. We do not recommend mounting metal enclosures directly onto concrete walls. Check with local authorities to verify local codes regarding metal enclosure mounting.

Note: To maintain compliance with UL 365, UL 690, and UL 1610, you must install the main control panel within a safe, vault, or Extent #1 stockroom.

All Alliance system enclosures contain four mounting holes located in the corners of the enclosure. Use appropriate mounting hardware to mount the enclosure to the mounting surface and the batteries to the enclosure as shown in *Figure 1*.

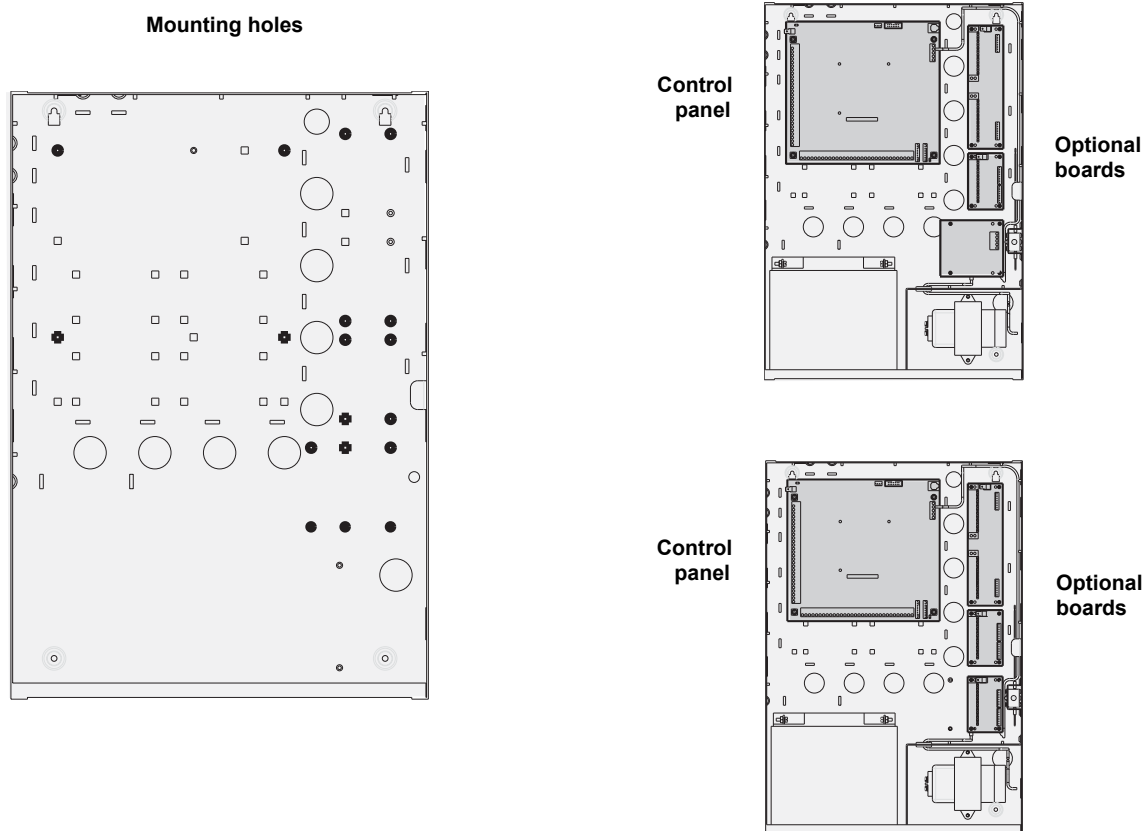
For the AL-4017 (24 VAC) transformer, use the 1690 transformer kit. For the AL-4617 (18 VAC) transformer, use the 1672 transformer kit.

Figure 1. Enclosure



2. Install the standoffs. Before the board can be installed, you must configure the appropriate standoffs. Use male/female standoffs where threaded holes are aligned with the mounting holes on the board and use clip-in standoffs where square holes are aligned with the mounting holes (*Figure 2*)

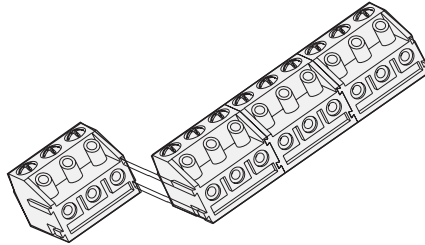
Figure 2. Standoff layouts



3. Install the transformer. Use two 6/32 x 1/4 in. screws to mount the transformer in the enclosure. Install the rubber grommet into the transformer shield and mount it to the enclosure using four 6/32 x 1/4 in. screws provided with the transformer (*Figure 1* on page 2).
4. It is important that you provide the proper grounding to the enclosure. Use two male/female standoffs to secure both the earth ground and enclosure ground wires (*Figure 1* on page 2). When securing the ground wires, use the internal tooth star washers provided with the enclosure between the standoff and the wire connector. All connections should be tight and make a good electrical connection.
5. Install the tamper switch. Assemble the tamper switch (use the instructions provided with the tamper switch). Use the three 6/32 x 1/4 in. screws provided to mount the tamper switch.

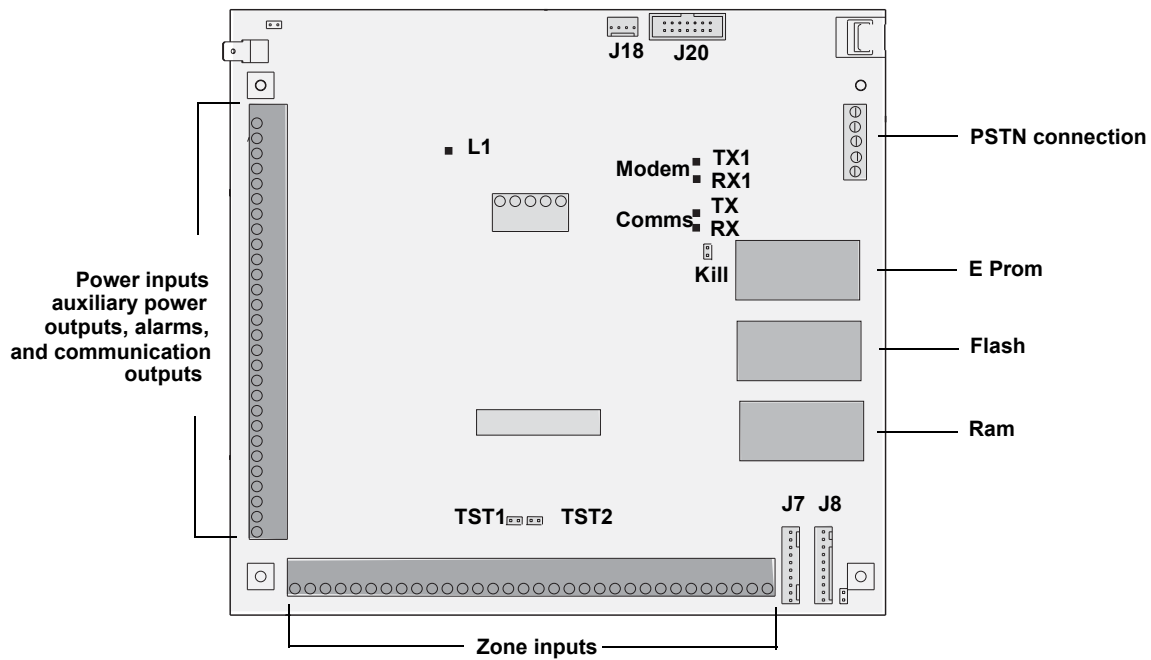
- Slide the board's terminal blocks together as shown in *Figure 3* and mount them to the board.

Figure 3. Terminal block assembly



- Use four 6/32 x 1/4 in. screws with internal star washers to mount the board (*Figure 4*) in the enclosure (*Figure 2* on page 3). To ensure proper grounding, tighten screws securely.

Figure 4. Control panel board



- To comply with FCC Part 15 B, you must install ferrites on each of the AC wires. For mounting details, refer to the instructions provided with the ferrites.

LEDs

Figure 4 on page 4 shows the following LEDs located on the board:

L1. Flashes slowly when the panel is operating (the microprocessor is running).

RX (Comms). Yellow LED flashes when remote units (RAS and DGP devices) are replying to polling.

TX (Comms). Red LED flashes when the panel is polling remote units. It must always be active.

RX1 (Modem). Yellow LED flashes when data is being received from a device connected to the PSTN dialer line (J15, J16) or J18 serial port RS232 communication to PC.

TX1 (Modem). Red LED flashes when data is being sent from the panel to a device connected to the PSTN dialer line (J15, J16) or J18 serial port RS232 communication to PC.

Wiring

Keep all panel wiring well away from other wiring. Avoid parallel wire runs with other wires. Where parallel wire are unavoidable, keep wires a minimum of 2 in. (5 cm) apart or in EMT. We recommend that you wire Alliance system components that use direct wire transformers into a dedicated circuit breaker and you plug those that use plug-in transformers into an unswitched outlet.



WARNING: Each control panel or device mounted in a metal enclosure, must have its enclosure connected to earth ground. Correct earth ground procedure must be followed.

To correctly earth ground your application, follow these procedures:

One enclosure with several devices. All devices designed for the system have chassis ground connections via metal studs to the metal enclosure. Take care that these metal studs make good connections to the enclosure (beware of paint). The earth connection of every piece of equipment in the system can be used for connecting the shielding of shielded cables. If a device, such as a keypad, is placed in a plastic enclosure, the earth lug of the device does not have to be connected.

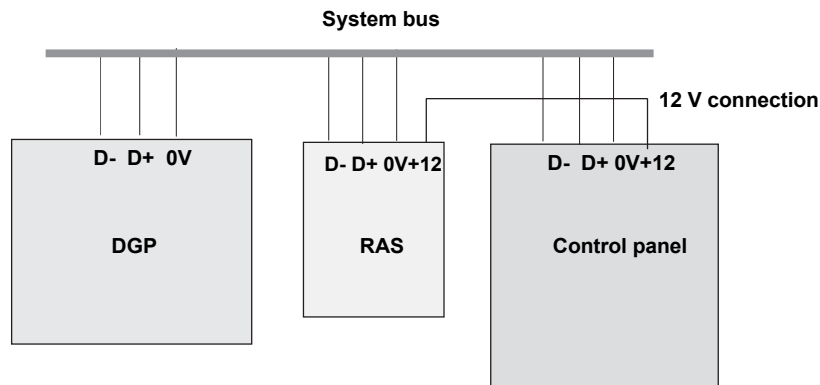
Panels in a single building. If several enclosures or devices are connected to earth ground in one building, the safety earth ground of this building has to be checked by a licensed contractor.

Panels in multiple buildings. If the wiring extends to separated buildings, more than one common earth ground system will be used. Use isolator/repeaters to isolate the system bus. In this way the system is protected against variations in earth potential.

System bus connections

Connect DGP devices to the system bus to provide extra zones and remote arming stations (RAS) to the control panel. Remote devices can be up to 5,000 ft. (1.5 km) from an Alliance system control panel. DGP and RAS devices must be connected via a twisted-pair, shielded data cable from the system bus connection. We recommend you use Beldon 8723. Connect the shield of the data cable to earth at the control panel and leave it disconnected at any other end. Where the distance between the arming station and the nearest device is more than 328 ft. (100 m), use a separate power supply to power the arming station. To power the arming station do not connect the (+) from the system bus, connect the (+) of the local power supply to the (+) on the arming station and connect the (0 V) from the power supply and (0 V) from the system bus to the arming station (-) terminal (*Figure 5*). The first and last devices on the system bus must be terminated. All other devices on the system bus must not be terminated.

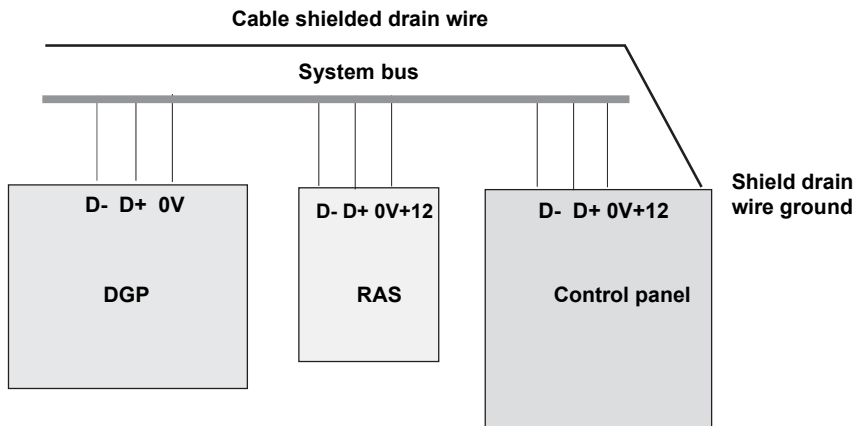
Figure 5. System bus connection



Shielded cable routing

Connect the shielding of all shielded cables used in the system at one side to one common earthing point in a building. If a shielded bus cable is routed via more than one plastic device, you must connect the shielding from in-coming and out-going cable (*Figure 6*). Metal chassis must be earth grounded. Splice shield drain wire at all junctions.

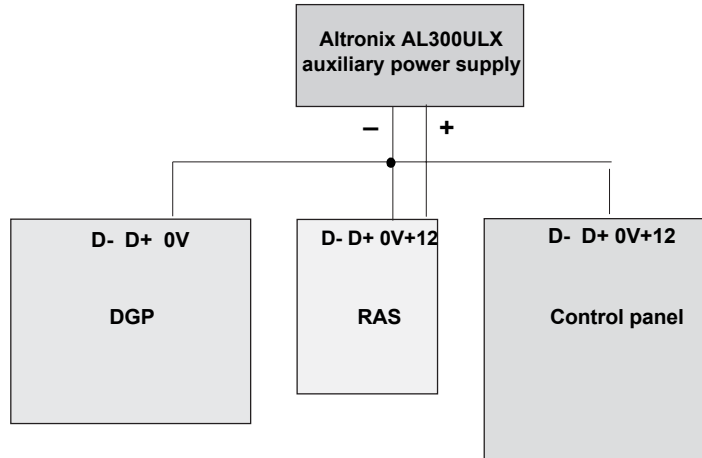
Figure 6. Shielded cable routing



Auxiliary power supply connections

In systems where expansion module power is not supplied by the main control panel or an AC-powered DGP with auxiliary outputs, you must use a UL listed power supply suitable for burglar alarm applications, such as the Altronix-AL300ULX. (*Figure 7*). Tie all 0V terminals together. Do not connect the +12 terminals together.

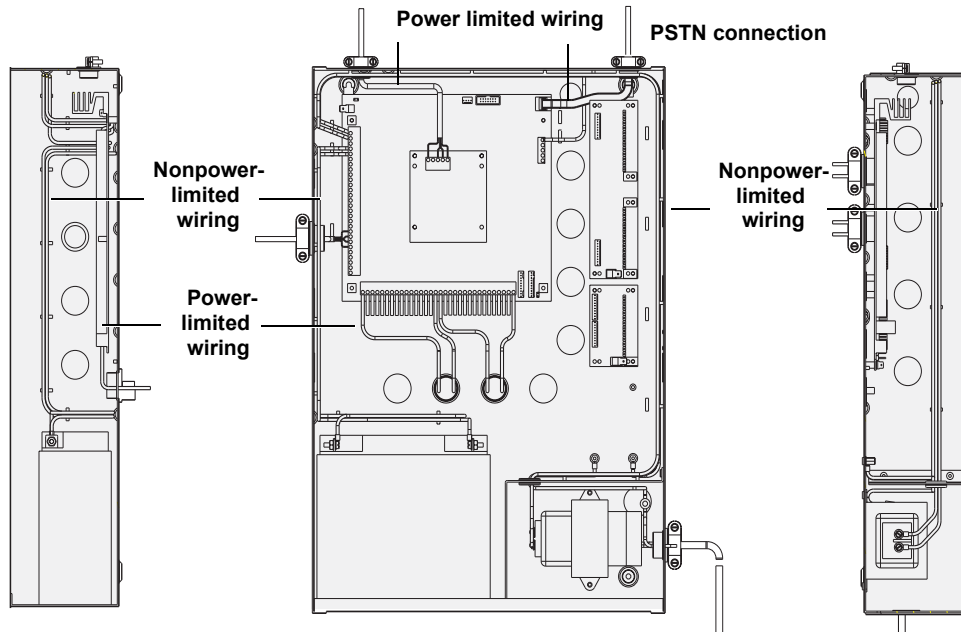
Figure 7. Auxiliary power supply connections



Nonpower/power-limited wiring

Keep nonpower-limited wiring away (1/4 in. minimum) from power-limited wiring (*Figure 8*). Disconnect the AC power via a dedicated circuit breaker before servicing.

Figure 8. Power and nonpower wiring

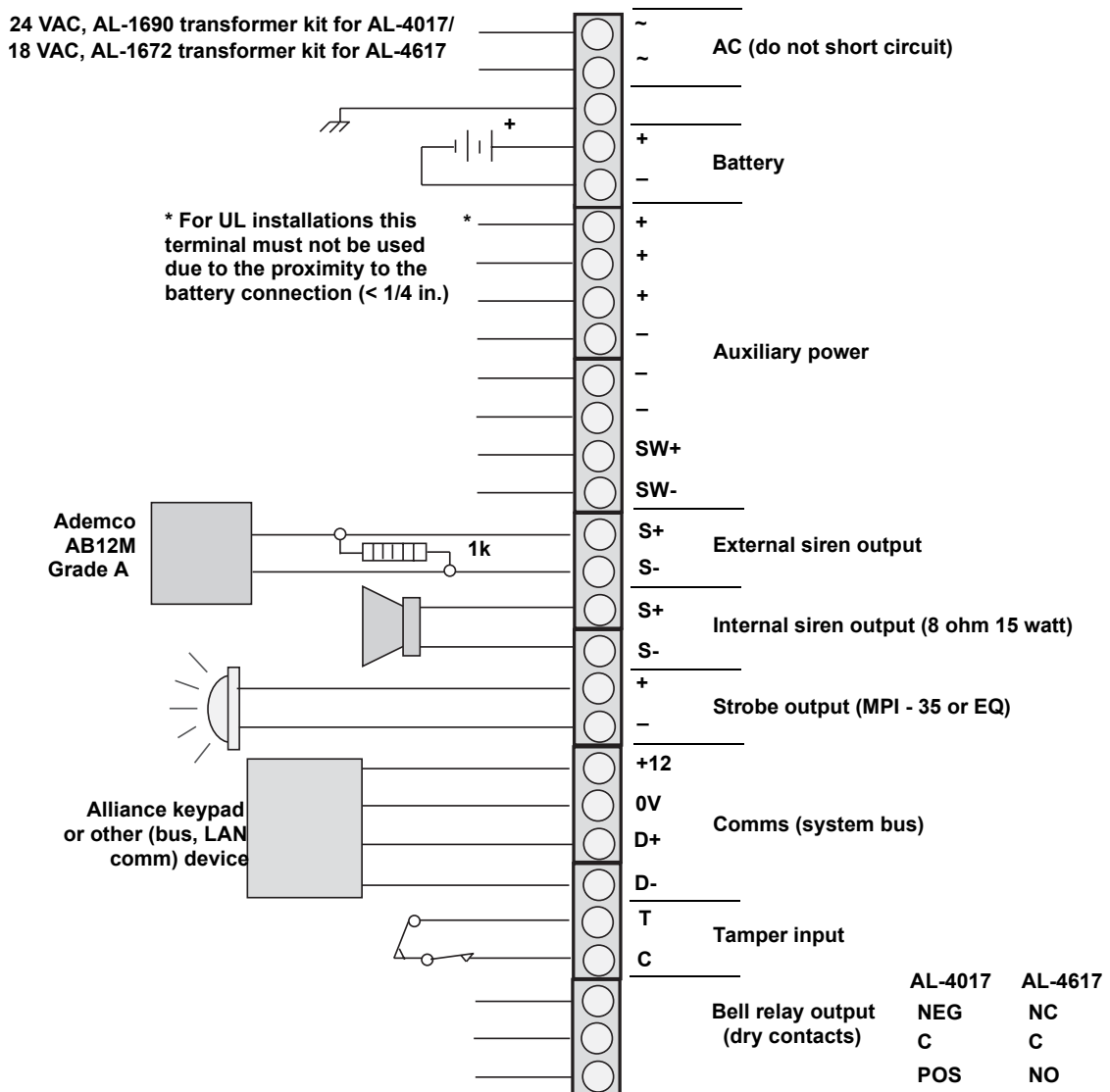


Control panel connections

Figure 9 shows the wiring connections on the control panel board. See [Battery capacity](#) on page 14 for the appropriate battery type. To wire the panel, use these guidelines:

- The total auxiliary power output is 300 mA (including +12 on Comms) for the AL-4017 and 3 Amps (including +12 on Comms) for the AL-4617.
- Alarm output is 1 Amp total and the siren output must be programmed for DC output if a bell is used.
- You must install a 1k resistor across the external siren outputs.
- The first and last device on the system bus (Comms) must be terminated.

Figure 9. Controller wiring connections



Zone input connections

Figure 10 shows zone inputs connections.

Figure 10. Alarm input and bell output wiring

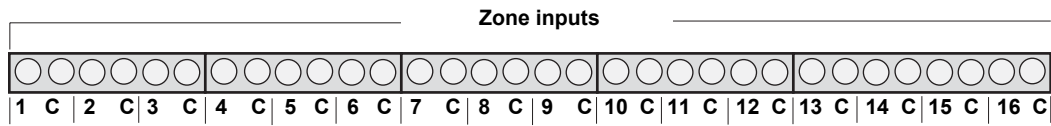
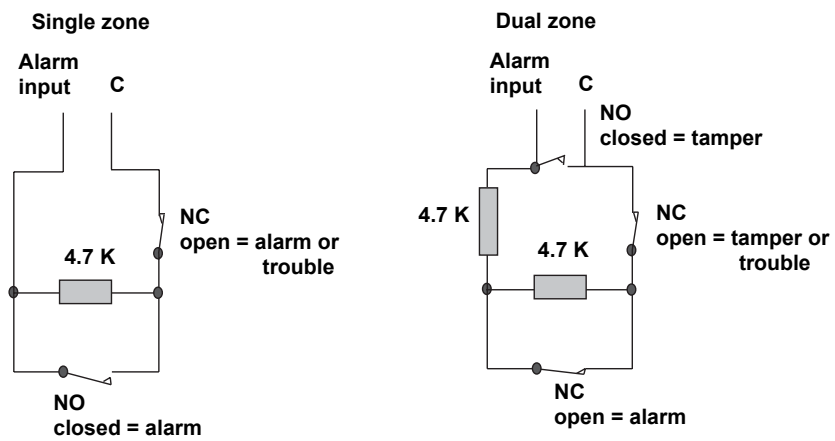


Figure 11 shows single and dual zone alarm input wiring.

Note: Dual zone is not acceptable for UL 365, UL 609, and UL 1610 compliance.

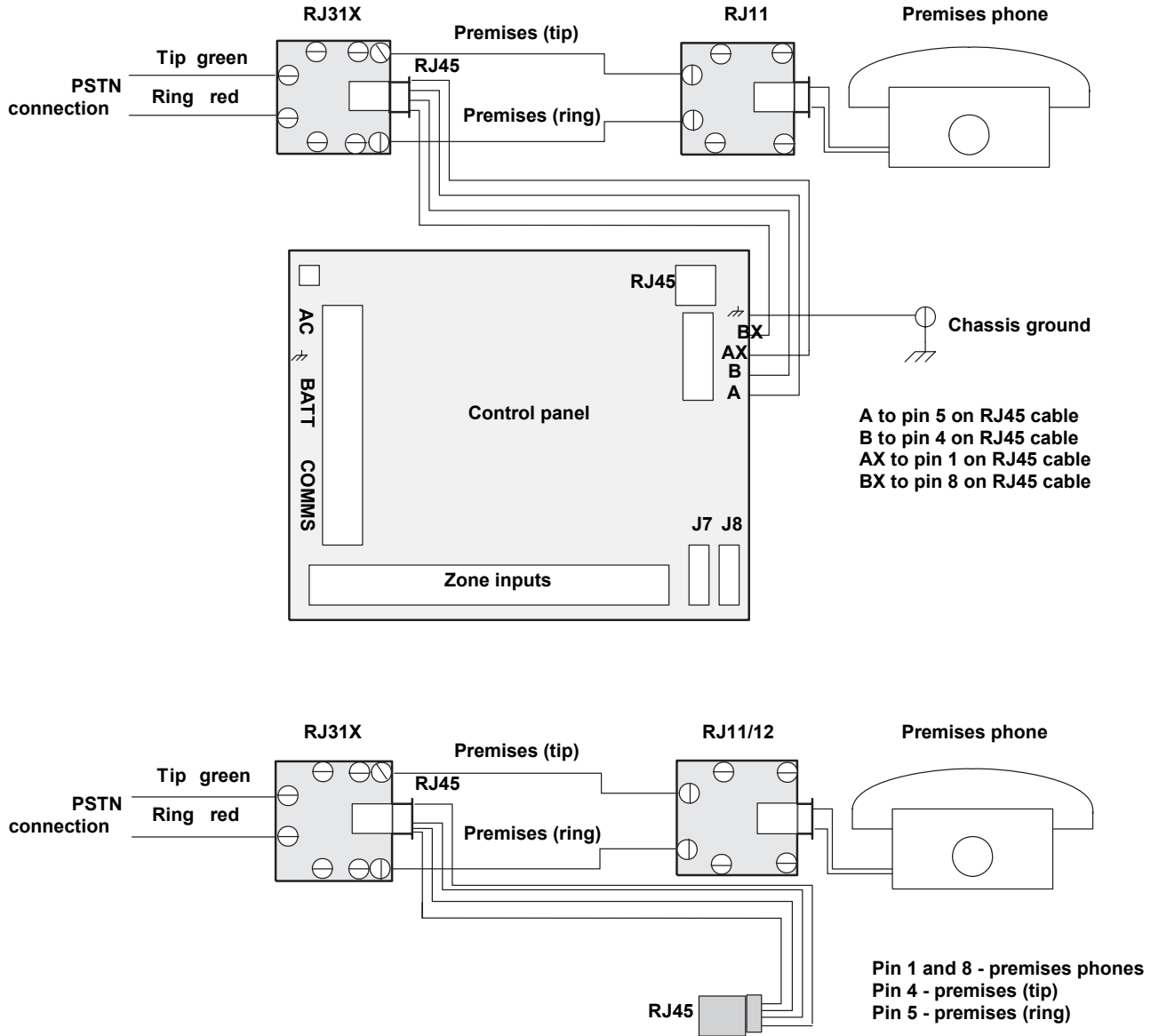
Figure 11. Single and dual zone alarm input wiring



PSTN connections

Figure 12 shows two methods to wire the control panel to a PSTN connection. This equipment complies with FCC Part 68 rules (US:GEIAL07B3-4000). We recommend you wire the system to a dedicated PSTN line.

Figure 12. PSTN connections



Installer programming menu

Refer to the Alliance System Programming Manual for a complete programming map and programming instructions.

The installer programming menu includes:

1. Zone database
2. Area database
3. RAS database
4. DGP database
5. Alarm groups
6. Timers
7. System options
8. Auto reset
9. Communication options
10. Program text
11. Version number
12. LED test
13. Time zones
14. Reset to default
15. Alarm group restrictions
16. Event to outputs
17. Auto arm/disarm
18. Areas assign to vault
19. Area linking
20. System codes
21. Zone shunts
22. Time zone to follow output
23. Poll errors
24. Download to remote devices
25. Display last card
26. Reserved menu
27. Reserved menu
28. To remote devices
29. Computer connection
30. Printer
31. Battery testing
32. Custom LCD message
33. Program next service
34. Program system event flags
35. Program macro logic
36. Reserved menu
37. Reserved menu
38. Reserved menu
39. Reserved menu
40. Reserved menu
41. Reserved menu
42. Reporting class database
43. Test calls
44. Reserved menu
45. Reserved menu
46. Reserved menu
47. Reserved menu
48. Reserved menu
49. Reserved menu
50. Channel mapping
51. Engineer reset
52. Voice reporting
53. Program DVMRe
54. Engineer walk test

Battery capacity

You must do the battery capacity calculations separately for each part of the system that has a separate power supply and standby battery. See [Battery calculation worksheet](#) on page 16 for a sample worksheet. To determine the correct battery capacities for your system, do the following:

1. Determine the exact configuration of your system.
2. Use a separate battery calculation worksheet for each part of your system that has a separate power supply and standby battery:
 - a. In the top row of the worksheet, list the primary component (control panel or expansion module) that is powered by the standby battery. Expansion modules include zone expander modules, relay modules, keypads, and card readers.
 - b. Add rows for all expansion modules or other devices that are powered by the primary component on that worksheet.
 - c. Add rows for any type of notification appliance that is connected to corresponding circuits on the primary component on that worksheet. Include rows for auxiliary power circuits that have attached devices.
3. Starting with the first worksheet, repeat the following procedures for each worksheet.
 - a. In the row for the primary component, enter the current listed for that device in the *Total standby current* column. For the control panel worksheet, this value is 200mA.
 - b. In rows for any expansion modules, enter the operating current for the module in the *Standby current* column. Multiply the value in the *Standby current* column by the attached quantity of modules of that type. Enter the result in the same row in the *Total standby current* column. If any row contains AL-1191 or AL-1193 card readers, enter 80 mA in the *Active current* column for that row. Multiply any value in the *Active current* column by the number of attached card readers and enter the result in the same row in the *Total active current* column.
 - c. In each notification appliance row, enter the alarm current drawn by a single device in the *Alarm current per device* column. Multiply the value in the *Alarm current per device* column by the number of devices used on that circuit for each row. Enter the result in the same row in the *Total alarm current* column.
 - d. In rows listing devices that are attached to auxiliary power terminals of the primary component, enter the operating current for each device in the *Standby current per device* column. Multiply the value in the *Standby current per device* column by the number of devices attached to that auxiliary power circuit and enter the result in the same row in the *Total standby current* column.
 - e. At the bottom of each worksheet, total the values in the *Total standby current* column, the *Total alarm current* column, and the *Total active current* column.

4. Do the following calculations for each worksheet:

Formula 1. Transfer the total value at the bottom of the *Total standby* current column to the first blank in Formula 1. Enter the *required number of hours in standby* in the corresponding blank, and do the indicated calculation. The result is the standby amp-hours your system requires. The value for *required number of hours in standby* varies by locale. Check with the proper authority having jurisdiction to determine your requirements.

Formula 2. Transfer the total value at the bottom of the *Total alarm current* column to the first blank in Formula 2. Enter the *required number of minutes in alarm* in the corresponding blank, and do the indicated calculation. The result is the alarm amp-hours your system requires. The value for *required number of minutes in alarm* varies by locale. Check with the proper authority having jurisdiction to determine your requirements.

Formula 3. Transfer the total value at the bottom of the *Total active current* column to the first blank in Formula 3. To calculate the *required number of seconds active* value, multiply the number of times a card is typically passed by a card reader each hour, times the number of card readers, times 5 seconds. For a medium traffic area, 12 access per hour is a commonly used value (5 seconds per access).

Formula 4. Carry the calculated values from Formulas 1, 2, and 3 to the corresponding blanks in Formula 4. Do the calculation to find the minimum battery capacity requirement for your system.

Formula 5. Due to natural aging effects on batteries over time, temperature cycles, and varying levels of discharge, a derating factor is applied to compensate for these variables. Consult the battery manufacturer data sheets for the appropriate derating factor. Formula 5 shows how to apply a typical derating factor of 1.15 to the minimum battery capacity requirement to determine the actual battery capacity requirement. The batteries selected for the control panel and for any separately powered expansion modules, must have a capacity rating that is equal to or greater than the actual battery capacity requirement.

The system may require two batteries. Each battery must individually meet the actual battery capacity requirement. Do not mix batteries of different types.

Table 2 shows an example of a battery calculation using Formulas 1 to 5 based on 1 card activation of 15 seconds every 5 minutes for 72 hours.

Table 2. Battery calculation example

Formula	Calculation	Result
1	Total standby current x Conversion factor x Required hours in standby 225 mA x .001Amp/mA x 72 hours	Ah standby Amp-hours: 16.2
2	Total alarm current x Conversion factor x Required minutes in alarm x Conversion factor 1000 mA x .001Amp/mA x 15 minutes x .0167 hours/min.	Ah alarm Amp-hours: .2505
3	Total active current x Conversion factor x Required seconds active x Conversion factor 80 mA x .001Amp/mA x 12960 seconds x .000278 hours/sec.	Ah active Amp-hours: .288
4	Standby Amp-hours + Alarm Amp-hours + Active Amp-hours 16.2 + .2505 + .288	Minimum battery power required: 16.74 Ah
5	Minimum battery power required x Battery capacity derating coefficient 16.74 x 1.15	Total standby battery required: 19.2 Ah

Battery calculation worksheet

Table 3. Battery calculation worksheet

Alliance components	Standby current	Total standby current	Alarm current per device	Total alarm current	Active current	Total active current
AL-4017		200 mA				
Aux power		300 mA				
Ext siren			1000 mA			
Int siren			1000 mA			
Strobe			1000 mA			
AL-4617		200 mA				
Aux power		3000 mA				
Ext siren			1000 mA			
Int siren			1000 mA			
Strobe			1000 mA			
Comms bus		1000 mA				
AL-11XX	120 mA					
AL-1170	45 mA					
AL-1191	25 mA				80 mA	
AL-1193	25 mA				80 mA	
AL-1205		75 mA				
Aux power		250 mA				
Siren			1000 mA			
AL-1206	25 mA					
AL-1210	53 mA					
AL-1220	53 mA					
AL-1255		275 mA				
Aux power		1000 mA				
Siren			1000 mA			
AL-1256/1265		275 mA				
Aux power		3000 mA				
Siren			1000 mA			
AL-1801	80 mA					
AL-1810	100 mA					
AL-1811	200 mA					
AL-1830	5 mA					
AL-1832	15 mA					
Total current requirements						

Formulas

Table 4 provides the formulas to calculate battery requirements.

Table 4. Battery calculation formulas

Formula	Calculation	Result
1	Total standby current x Conversion factor x Required hours in standby _____ mA x .001Amp/mA x _____ hours	Ah standby Amp-hours _____
2	Total alarm current x Conversion factor x Required minutes in alarm x Conversion factor _____ mA x .001Amp/mA x _____ minutes x .0167 hours/min.	Ah alarm Amp-hours _____
3	Total active current x Conversion factor x Required seconds active x Conversion factor _____ mA x .001Amp/mA x _____seconds x .000278 hours/sec.	Ah active Amp-hours _____
4	Standby Amp-hours + Alarm Amp-hours + Active Amp-hours _____ + _____ + _____	Minimum battery power required _____ Ah
5	Minimum battery power required x Battery capacity derating coefficient _____ x 1.15	Total standby battery required _____ Ah

Absolute maximum loads

Table 5 and Table 6 show the maximum continuous loads that can be supported by two 17.2 Ah batteries or one 17.2 Ah battery. If the total standby current exceeds those listed in the table, you do not meet 24/72-hour standby requirements. Other battery sizes are possible, but two 17.2 Ah batteries are the maximum battery size supported. If your standby time is different, you can use the calculations in *Formulas* to calculate the total standby battery power required. If the answer exceeds the battery size you have chosen, you must install appropriate batteries or adjust the system configuration to meet the battery power requirements.

AL-4017.

Table 5. Absolute maximum loads for the AL-4017

Required batteries	Maximum continuous load for 24/72 hr. standby with 15 min. alarm and 1 active card read/5 min.			
	24-hour		72-hour	
Two 17.2 Ah	Maximum total 750 mA	Maximum aux 500 mA	Maximum total 325 mA	Maximum aux 100 mA
One 17.2 Ah	Maximum total 500 mA	Maximum aux 300 mA	–	–

AL-4617

Table 6. Absolute maximum loads for the AL-4617

Required batteries	Maximum continuous load for 24/72 hr. standby with 15 min. alarm and 1 active card read/5 min.			
	24-hour		72-hour	
Two 17.2 Ah	Maximum total 1200 mA	Maximum aux 1000 mA	Maximum total 325 mA	Maximum aux 100 mA
One 17.2 Ah	Maximum total 500 mA	Maximum aux 300 mA	–	–

Specifications

General specifications

Current consumption PCB	205 mA nominal
End-of-line resistors	Default: 4.7 k ohm (other: 10 kohm, 6.8 kohm, 5.6 kohm, 3.74 kohm, 3.3 kohm, 2.2 kohm, 2 kohm, 1.5 kohm) 5%, 0.25 W
Housing dimensions	21 x 14.5 x 4.5 in. (533 x 368 x 114 mm)
Operating temperature	32 to 120°F (0 to 49°C)
Humidity	85% noncondensing
Listings	UL 294, Standard for Access Control System Units UL 365, Standard for Police Station Connected Burglar Alarm Units and Systems UL 609, Standard for Local Burglar Alarm Units and Systems UL 1610, Standard for Central-Station Burglar-Alarm Units UL 1635, Standard for Digital Alarm Communicator System Units

These specifications are for the AL-4017 and AL-4617 main board (no accessories).

AL-4017 external terminals

Part	Terminal	Description	Min.	Typ	Max	Unit
J17	AC	Input	16.5 ¹	24 ²	2,1	VAC A
	BATT	Battery connection	9	12	14	VDC
		Battery charge			1	A
		Battery AH rating	17.2		34.4	AH
J14, J10	AUX, POWER	Auxiliary power outputs	9	13.8	14	VDC
	COMMS	System bus power output			300	mA
J13	EXT Siren	Alarm outputs	9	13.8	14	VDC
J9	BELL	Dry relay output			30	VDC
					1	A

1. AL-1692

2. AL-1690, AL-1691.

AL-4617 external terminals

Part	Terminal	Description	Min.	Typ	Max	Unit
J17	AC	Input		18		VAC
	BATT	Battery connection	9	12	14	VDC
		Battery charge Battery AH rating	17.2		1 34.4	A AH
J14	AUX, POWER	Auxiliary power outputs	9	13.8	14 3 1	VDC A
J10	COMMS	System bus power output	9	13.8	14 1 1	VDC A
J13	EXT Siren	Alarm outputs	9	13.8	14	VDC
	INT SIREN		9	13.8	14	VDC
	STROBE		9	13.8	14	VDC
	SWT		9	13.9	14	VDC
J9	BELL	Dry relay output			30 1	VDC A

1. Combined loads not to exceed 3 A.

UL compliance statement

To maintain compliance with UL365, UL609, and UL1610:

Mercantile premises alarm systems

1. Zone types 22, 28, 29, and 30 (auto reset) can not be used.
2. Force arming is not allowed (refer to the *Alliance System Programming Manual*).
3. Siren time should be programmed for no less than 15 minutes (refer to the *Alliance System Programming Manual*).
4. Siren delay time must be set to 0 seconds (refer to the *Alliance System Programming Manual*).
5. Total combined entry/exit time can not exceed 60 seconds (refer to the *Alliance System Programming Manual*).
6. Alarm sounding device must be powered by the control unit and the siren test must be programmed *YES* (refer to the *Alliance System Programming Manual*).
7. Safe and vault supervision circuits must be programmed for 24-hour operations (refer to the *Alliance System Programming Manual*).
8. The system must be programmed for 24-hour test reports to be sent to the control station (refer to the *Alliance System Programming Manual*).
9. Dual zone operation is not permitted.
10. Reporting to central station 2, 3, and 4 must be set to *NO* (refer to the *Alliance System Programming Manual*).
11. Display shunted zones on LCD keypad must be set to *YES* (refer to the *Alliance System Programming Manual*).
12. Resets from RAS without code must be set to *NO* (refer to the *Alliance System Programming Manual*).
13. AC fail delay time must not exceed 240 minutes (refer to the *Alliance System Programming Manual*).
14. System tamper activates siren and strobe must be set to *YES* (refer to the *Alliance System Programming Manual*).
15. Latching system alarms must be set to *YES* (refer to the *Alliance System Programming Manual*).
16. Siren types must be set to *1* (refer to the *Alliance System Programming Manual*).
17. Enable PSTN line monitor must be set to *YES* (refer to the *Alliance System Programming Manual*).
18. Sirens only after fail to report must be set to *NO* (refer to the *Alliance System Programming Manual*).

Mercantile safe and vault

In addition to the above requirements, Mercantile Safe and Vault Alarm Systems must comply with the following:

1. Alarm sounding device output must be mechanically and electrically protected (see hook-up label).

Bank safe and vault

In addition to the above requirements, Bank Safe and Vault Alarm Systems must comply with the following:

1. This equipment must be installed within a complete vault, a complete safe, or an extent number 1 stockroom.
2. The system must be programmed to inhibit disarming the system during closed hours (refer to the *Alliance System Programming Manual*).

Note: For Bank Safe and Vault applications, both the internal and external alarm sounding devices must be the UL tested Ademco, Model AB12M. For Mercantile Premise and Mercantile Safe and Vault applications, the alarm sounding devices must be a UL Listed Burglar Alarm bell or siren such as the Moose, Model MP135.

Note: The maximum AUX Power output including comms bus power (max total):

	24-Hour	72-Hour
AL-4017	500mA	100mA
AL-4617	1000mA	100mA

Contacting technical support

For assistance installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, you may contact technical support during normal business hours (Monday through Friday, excluding holidays, between 5 a.m. and 5 p.m. Pacific Time).

Table 7. Sales and support contact information

	Sales	Technical support
Phone:	Toll-free: 888.437.3287 in the US, including Alaska and Hawaii; Puerto Rico; Canada). Outside the toll-free area: 503.885.5700.	
E-mail	info@utcfireandsecurity.com	
Fax	800.483.2495	541.752.9096 (available 24 hours a day)

Note: Be ready at the equipment before calling for technical support.

Online publication library

Another great resource for assistance with your UTC Fire & Security products is our online publication library, available to all of our customers on our website. To access our publication library, go to our website at the following location:

<http://www.utcfireandsecurity.com>

In the **Tools** area at the top, click the [Publication Library](#) link. After you register and log on, you may search through our online library for the documentation you need.¹

1. Many documents are provided as PDFs (portable document format). To read these documents, you will need Adobe Acrobat Reader, which can be downloaded free from Adobe's website at www.adobe.com.