

AL1042ADA220 NAC Power Extender

Installation Guide

(See Application Guide for additional information)



AL1042ADA220 - NAC Power Extender

Overview:

Altronix AL1042ADA220 is an extremely cost effective 10 amp remote power supply/battery charger. It may be connected to any 12 or 24 volt Fire Alarm Control Panel (FACP). Primary applications include Notification Appliance Circuit (NAC such as strobes and horns) expansion support to meet ADA requirements. It also provides auxiliary power to support system accessories. The unit delivers electronically regulated and filtered 24 volt power to Class B, Style W, X, Y or Class A, Style Z NAC loop circuits. Additionally, a separate 1 amp auxiliary output for 4-wire smoke detectors is available. The 10 amp max. alarm current can be divided between the four (4) outputs for powering NAC devices. Each output is rated at 2.5 amp max., and can be independently programmed for Steady, Temporal Code 3 or Strobe Synchronization. All outputs may be programmed for Input to Output Follower Mode (output will follow input. i.e. March Time Input, March Time Output). An individual output of 4 amp is achieved by paralleling 2 outputs. In non-alarm condition independent loop supervision for Class A, Style Z and/or Class B, Style W, X, Y FACP NAC circuits is provided. In the event of a loop trouble, the FACP will be notified via the steered input (input 1 or input 2). In addition, there are common trouble output terminals [NC, C, NO] which are used to indicate general loop/system trouble. A common trouble input is provided for optional [NC] (normally closed) devices to report trouble to the FACP. Two (2) FACP signaling outputs can be employed and directed to control supervision and power delivery to any combination of the four (4) outputs.

Specifications:

Input:

- Power input 220VAC (working range 198VAC 256VAC), 50/60 Hz, 2.2 amp.
- Two (2) Class A, Style Z or two (2) Class B, Style W, X, Y FACP inputs.
- Two (2) NC dry contact trigger inputs.

Output:

- 24VDC voltage regulated power limited outputs.
- 10 amp max total alarm current.
- 2.5A max current per output.
- Two auxiliary outputs rated at 1 amp each (1 amp continuous, 1 amp AC disconnect).
- Two (2) outputs may be paralleled for more power on an indicating circuit (see Application Guide).
- Programmable supervised indicating circuit outputs: Four (4) Class B, Style W, X, Y or Four (4) Class A, Style Z or Two (2) Class A, Style Z and Two (2) Class B, Style W, X, Y *(see Application Guide).*
- Thermal and short circuit protection with auto reset.

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switchover to stand-by battery when AC fails.
- Zero voltage drop when switching over to battery backup. *Supervision:*
- AC fail supervision (form "C" contact, 1 amp / 28VDC). Factory set for 1 minute with optional 2 hour delay setting (field selectable).
- Instant local AC trouble reporting relay (form "C" contact, 1 amp / 28VDC).

Supervision (cont'd):

• Battery presence and low battery supervision (form "C" contact, 1 amp / 28VDC).

Visual Indicators:

• Input and output status LED indicators.

Special Features:

- 2-wire horn/strobe Sync mode allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate.
- Sync protocols include Potter/Amseco, Faraday, Gentex[®], System Sensor[®], and CooperWheelock[®].
- Temporal Code 3, Steady Mode, Input to Output Follower Mode (maintains synchronization of notification appliances circuit).
- Compatible with 12VDC or 24VDC fire panels.
- Output loop supervision directed to input 1 or input 2.
- Signal Circuit Trouble Memory facilitates quick identification of an intermittent/fault (short circuit, open or ground) which has previously occurred on one or more signaling circuit outputs. LEDs indicate/identify which output the fault has occurred.
- Common trouble input and output.
- Ground fault detection.
- Unit includes power supply, logic board enclosure, cam lock, and battery leads.

Enclosure Dimensions (H x W x D approx.):

18" x 14.5" x 4.5" (457.2mm x 368.3mm x 114.3mm).

Power Supply Specifications:

AC Input:	220VAC (working range 198VAC - 256VAC), 50/60Hz, 2.2 amp.
Output:	Four (4) regulated supervised NAC output circuits, 24VDC, 2.5 amp maximum current. One (1) aux. special application 24VDC power output circuit 1 amp, non-supervised; total output current must not exceed current 8 amp in Alarm Condition.
Battery:	Use two (2) 12VDC / 12AH or two (2) 12VDC / 7AH batteries connected in series.
Stand-by/Alarm Current Consumption:	90mA/175mA
EOL Resistor (end of line):	2.2K (2200 ohm), Altronix Model # AL-EOL22 (included).
Ground fault maximum test impedance:	1000 ohm.

Stand-by Specifications:

Stand-by Batteries	Stand-by Time	Alarm Output Total Amp/Minutes	Aux. 2 Stand-by Output Current	
24VDC/7AH	24 Hours	10 amp/5 minutes	-	1 amp
24VDC/12AH (use two (2) 12VDC batteries in series)	24 Hours	10 amp/5 minutes	50mA	1 amp
24VDC/36AH	24 Hours	10 amp/5 minutes	1 amp	1 amp

Note: Unit is equipped with two (2) 1 amp max. auxiliary outputs: "AUX1" will automatically disconnect when AC is lost. "AUX2" will remain battery backed up during power outage. For loads connected to "AUX2" please refer to battery "Stand-by Specifications" above for ratings. When loads are connected to the "AUX1" and or "AUX2" outputs during alarm condition, the remaining outputs may not exceed 10 amp total alarm current. (example: AUX1 = 1 amp, AUX2 = 1 amp, outputs up to 8 amp).

Installation Instructions:

Wiring methods should be in accordance with the National Electrical Code/NFPA 70/NFPA 72/ANSI, and with all local codes and authorities having jurisdiction.

Product is intended for indoor use only.

arefully review:		
Application Guide (for AL642ADA220, AL842A	DA220, AL1042ADA220)	
Power Supply Output Specifications	(pg. 3)	
Stand-by Specifications	(pg. 3)	L N /
Output Programming Selection Table	(pg. 4)	neutral
Sync Mode Selection Table	(pg. 4)	
Terminal Identification Table	(pg. 5-6)	Fig. 1
LED Diagnostics	(pg. 6)	<i>Fig.</i> 1

- 1. Mount unit in the desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two upper screws; level and secure. Mark the position of the lower two holes. Remove the enclosure. Drill the lower holes and install two fasteners. Place the enclosure's upper keyholes over the two upper screws and make sure to tighten all screws (*Enclosure Dimensions, pg. 12*).
- 2. Connect the line (L) and neutral (N) terminals to a separate unswitched AC circuit (220VAC, 50/60Hz) dedicated to the Fire Alarm System.
- 3. Measure output voltage before connecting devices. This helps avoiding potential damage.
- 4. Connect battery to the terminals marked [+ BAT -] on the Power Supply Board (battery leads included). Use two (2) 12VDC batteries connected in series.
- 5. Set output selection switches marked [OUT1 through OUT4] to follow corresponding input [IN1 & IN2] and desired output signal type (*Output Programming Selection Table, pg. 4*).
- Connect FACP output to the desired AL842LGK logic board inputs and notification appliances to the desired AL842LGK logic board outputs (*see Application Guide*).
 Note: The 2-wire horn/strobe sync mode will only synchronize horns, horn/strobes, strobes with synchronization capability.
- 7. For connection of smoke detectors, digital dialer see Optional Hookup Diagram, pg. 7.

ground

Output Programming Selection Table:

Function	Switch Positions		Descriptions		
Function	ON	OFF	Descriptions		
Input to Output Follower Mode	1	2, 3	Output follows signal it receives from the corresponding input (i.e. FACP Sync module - maintains synchronization of notification appliance circuit).		
Temporal Code 3 Mode 3		1, 2	Enables Temporal Code 3 signal generation output. This mode will accept a steady or a pulsing input.		
Steady Mode		1, 2, 3	A steady output signal will be generated. This mode will accept steady or pulsing input.		

Outputs must be programmed independently (OUT1 - OUT4)

For the above modes Dip Switch 4 determines which Input controls the corresponding output:

Switch 4 in the ON position causes output(s) to be controlled by input 1. Switch 4 in the OFF position causes output(s) to be controlled by input 2.

(AL842LGK Board) Output Dip Switches

S

INPUT SELECT TEMPORAL STROBE SYNC IN>OUT SYNC

Function	Switch Positions		Descriptions
ON O		OFF	Descriptions
Amseco Sync Mode*	1, 3, 4	2	This mode is designed to work with the Amseco series of horns, strobes, and horn/strobes to provide a means of synchronizing the Temporal-coded horns, synchronizing the flash timing of the strobe, and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving strobes active.
Faraday Sync Mode*	2, 4	1, 3	This mode is designed to work with the Faraday series of horns, strobes, and horn/strobes to provide a means of synchronizing the Temporal-coded horns, synchronizing the flash timing of the strobe, and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving strobes active.
Gentex® Sync Mode* Gentex is a registered trademark of Gentex Corporation.	1, 2, 3, 4		This mode is designed to work with the Gentex [®] series of horns, strobes, and horn/strobes to provide a means of synchronizing the Temporal-coded horns, synchronizing the flash timing of the strobe, and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving strobes active.
System Sensor® Sync Mode* System Sensor is a registered trademark of Honeywell.	1, 2, 4	3	This mode is designed to work with the System Sensor [®] series of horns, strobes, and horn/strobes to provide a means of synchronizing the Temporal-coded horns, synchronizing the one-second flash timing of the strobe, and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving strobes active.
CooperWheelock® Sync Mode* CooperWheelock is a registered trademark of Cooper Wheelock.	2, 3, 4	1	This mode is designed to work with the CooperWheelock [®] series of horns, strobes, and horn/strobes to provide a means of synchronizing the Temporal-coded horns, synchronizing the one-second flash timing of the strobe, and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving strobes active.

Sync Mode Selection Table:

Note: The AL1042ADA220 will only synchronize horns, horn/strobes and strobes that contain synchronization capability. Contact signal manufacturer for more detailed info. The same synchronization mode must be selected for all outputs.

Terminal Identification Table:

AL842LGK - Logic Board

Terminal Legend	Function/Description
IN1+, IN1- IN2+, IN2- (Supervised)	These terminals connect to the 12VDC or 24VDC FACP notification appliance circuit outputs. (Class A, Style Z or Class B, Style W, X, Y) Input trigger voltage is 9-30VDC @ 5mA min. Terminal polarity is shown in alarm condition. During an alarm condition these inputs will cause the selected outputs to drive notification appliances. The designated outputs are set by output switches [OUT1 through OUT4] (<i>Output Programming Selection Table, pg. 4</i>). A trouble condition on an output loop will cause the corresponding input to trip the FACP by opening the FACP loop. An alarm condition will always override trouble to drive notification appliances.
RET1+, RET1- RET2+, RET2- (Supervised)	For (Class A, Style Z hookups these terminal pairs return to FACP NAC1 and/or NAC2. For Class B, Style W, X, Y hookups the FACP EOL resistor from the NAC1 and/or NAC2 outputs are terminated at these terminals. Optionally, other notification appliances or additional signaling circuit power supplies may be connected to these terminals. If this option is chosen, the EOL resistor must be terminated at the last device.
C "DRY1" NC C "DRY2" NC (Dry input trigger)	An open across these inputs, will cause the selected outputs chosen to drive notification appliances. The designated outputs are set by output switches [OUT1 through OUT4] <i>(Output Programming Selection Table, pg. 4).</i> Note: these inputs are unidirectional and will not report a trouble condition to the FACP.
+ OUT1 - + OUT2 - + OUT3 - + OUT4 - (Supervised)	Notification appliances are connected to these regulated outputs <i>(see Application Guide pg. 2-4)</i> . Each output will supply 2 amp. Two (2) outputs may be connected in parallel for a maximum NAC output capability of 4 amp. Total supply current is 10 amp <i>(see note below)</i> . Outputs are controlled by designated input 1 [IN1] or input 2 [IN2] <i>(Output Programming Selection Table, pg. 4)</i> . Maximum line loss or voltage drop (tested with 2.5V).
+ Loop 1 - + Loop 2 - + Loop 3 - + Loop 4 -	Used for Class A, Style Z hook-ups to terminate loops originating on [OUT1], [OUT2], [OUT3], and [OUT4] respectively.
C "FAULT" NC (Common trouble input)	An open circuit across this pair of terminals will cause [INP1 and INP2] LEDs to simultaneously signal a trouble condition back to the FACP (Typically used to report AC or BAT Fail). <i>(Fig. 2e, pg. 7).</i>
NC, C, NO (Common trouble output)	These are dry contact trouble outputs that follow any general loop/system trouble conditions. (Typically used to trigger a digital communicator or other reporting device). (form "C" contact 1 amp / 28VDC 0.35 Power Factor) (<i>Fig. 2, pg. 7</i>).
- AUX1+	This separate auxiliary regulated power output circuit supplies up to 1 amp continuous under normal AC powered conditions. It will be disconnected from its load during AC power failure (<i>Fig. 2, pg.7</i>).
- AUX2+	This separate auxiliary regulated power output circuit supplies up to 1 amp during stand-by and alarm condition. Since this output is not disconnected from its load during AC power failure, use <i>Battery Calculation Worksheet, pg. 9</i> to determine battery size and/or allowable stand-by and alarm current.
+ DC -	24VDC from power supply.

Note: Unit is equipped with two (2) 1 amp max. auxiliary outputs: "AUX1" will automatically disconnect when AC is lost, "AUX2" will remain battery backed up during power outage. For loads connected to "AUX2" please refer to battery "Stand-by Specifications" above for ratings. When loads are connected to the "AUX1" and or "AUX2" outputs during alarm condition, the remaining outputs may not exceed 10 amp total alarm current. (example: AUX1 = 1 amp, AUX2 = 1 amp, outputs up to 8 amp).

Note: It is required to control visual notification appliances (strobes) via input 1 [IN1] and audible notification appliances (horns) via input 2 [IN2]. This allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate.

Terminal Identification Table:

Terminal Legend	Function/Description
L, G, N	Connect 220VAC to these terminals: L to hot, N to neutral.
- DC +	24VDC @ 8 amp continuous, 10 amp in alarm non power-limited output.
AC FAIL NO, C, NC	Form "C" dry contacts indicate the loss of AC, with AC present terminals marked [NO and C] are open, [NC and C] are closed. When loss of AC occurs terminals marked [NO and C] are closed, [NC and C] are open.
AC LOCAL NC, NO, C	Form "C" dry contacts used to instantaneously signal the loss AC to local annunciation devices, with AC present terminals marked NO and C are open, NC and C are closed. When loss of AC occurs terminals marked NO and C are closed, NC and C are open.
BAT FAIL NO, C, NC	Form "C" dry contacts used to signal low battery voltage or loss of battery voltage. Under normal conditions terminals marked NO and C are open, NC and C are closed. During a trouble condition terminals marked NO and C are closed, and NC and C are open (<i>Fig. 2, pg. 7</i>).
+ BAT -	Stand-by battery input (leads provided) (Fig. 2, pg. 7).

AL1024XB - Power Supply Board*

*Parameter Specifications:

- AC fail condition is factory set to report approximately 30 seconds after there is a loss of AC. To delay reporting for 2 hours cut jumper J2 on the Power Supply Board before powering up the unit (AC trouble output delay option). If this mode is desired, the Power Supply Board must be reset by removing all power to it for 30 seconds.
- Low battery condition reports when batteries reach approximately 21VDC.
- Battery presence detection will report within 180 seconds after battery remains undetected (missing or removed). A restored battery will report within 30 seconds.

Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal operating condition.
ON	OFF	Loss of AC. Stand-by battery supplying power.
OFF	ON	No DC output.
OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.

LED Diagnostics:

AL1024XB - Power Supply Board

AL842LGK - Logic Board

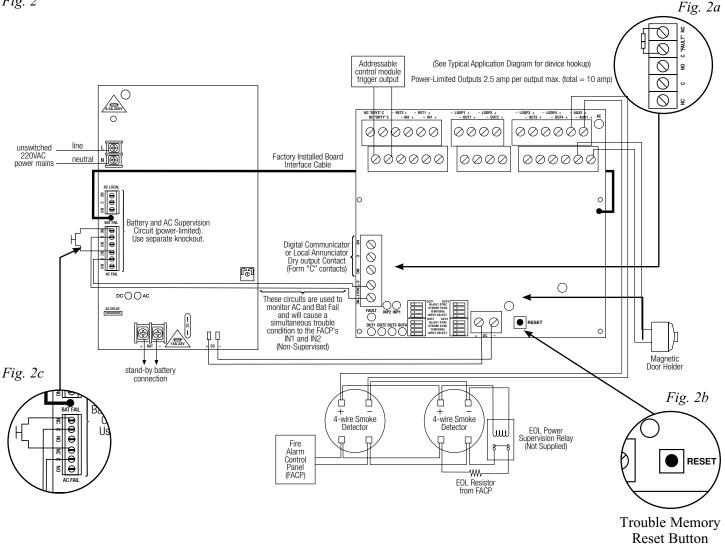
LED	OFF	ON	BLINK (LONG)*	BLINK (SHORT)**
OUT1 (Red)	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
OUT2 (Red)	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
OUT3 (Red)	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
OUT4 (Red)	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
INP1 (Green)	Normal	Alarm Condition	Trouble Condition	-
INP1 (Green)	Normal	Alarm Condition	Trouble Condition	-
Fault (Red)	Normal	System Trouble	_	-

* Indicates existing trouble condition. When a trouble condition (open, short or ground) occurs on a specific output, the corresponding red output LED [OUT1-OUT4] will blink. The corresponding green input LED will blink as well.

** Indicates trouble condition memory. When a trouble condition restores, the unit's red output LEDs, [OUT1-OUT4] will blink with a shorter and distinctly different duration. The green input LEDs will be off (normal condition). To reset the memory depress the reset button located on the AL842LGK logic board (*Fig. 2D, pg. 7*). The LED(s) will extinguish.

Note: When indicating circuits have restored, trouble memory reset is not required for normal operation.

Optional Hookup Diagram:



Optional Hookups:

1- Battery and AC monitoring: AC or Battery Fail condition will cause the common trouble input [C "FAULT" NC] to report back to the FACP via input 1 and input 2. The common trouble input may also be used for other optional supervisory monitoring.

To report AC and Battery Trouble connect the battery and AC fail relay output to the common trouble input (Fig. 2).

Dry contact input [C "DRY1" NC] [C "DRY2" NC] can be used to alarm output from an addressable 2module (these inputs are unidirection and cannot report back to trigger module).

Note: If common trouble input, terminals marked [C "FAULT" NC] are not used, these terminals must be shorted (together) to remain inactive, (For optional hookups, Fig. 2).

Auxiliary outputs provide 24VDC at 1 amp max per output. 3-"AUX1" will be automatically disabled during power failure. (use this for non required backup power) "AUX2" will remain operational during allowable power failure. Refer to stand-by chart for stand-by and alarm current.

Maintenance:

Unit should be tested at least once a year for the proper operation as follows:

Output Voltage Test: Under normal load conditions the DC output voltage should be checked for proper voltage level (26.2-26.4VDC recommended range).

Battery Test: Under normal load conditions check that the battery is fully charged. Check specified voltage both at the battery terminal and at the board terminals marked [+BAT -] to ensure that there is no break in the battery connection wires. **Fuses:** Check input and output fuses on the power supply board, replace if necessary. Input fuse rating is 10 amp @ 250V, Output fuse rating is 15 amp @ 32V.

Note: Maximum charging current is 1.5 amp.

Note: Expected battery life is 5 years; however, it is recommended changing batteries in 4 years or less if needed.

Battery Calculation Worksheet

Dev	vice	Number of Devices	C III I I I I I I I I I I I I I I I I I		Stand-by Current	Alarm Current
For	each device use this formula:	x This column =	= Equals	Current per nur	nber of devices.	
AL	1042ADA220	1	Stand-by:	130mA	130mA	
(Cu	urrent draw from battery)	1	Alarm:	300mA		300mA
Α		AL1042 Curren	t		130mA	300mA
Au	xiliary Devices		Refer to device m	nanual for curre	ent ratings.	
			Alarm/Stand-by	mA	mA	mA
			Alarm/Stand-by	mA	mA	mA
			Alarm/Stand-by	mA	mA	mA
B		Auxiliary Device	es Current (must	not exceed 1 a	mp)	
			Refer to device m	nanual for curre	ent ratings.	
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
С	Notification Appliances Curre	nt must not exceed	d 10 amp (10,000m	nA) 0mA		mA
D	Total alarm current				mA	mA
E	Total current ratings converted	Total current ratings converted to amperes (line l			A	A
F	Number of stand-by hours (24	for NFPA 72, Ch	apter 1, 1-5.2.5).		Н	
G	Multiply lines E and F.		Total stand-	-by AH	AH	
н	Alarm sounding period in hou (For example, 5 minutes $= 0.0$					Н
Ι	Multiply lines E and H.	Total ala	rm AH			АН
J	Add lines G and I.	Total star	nd-by and alarm A	Н	AH	
к	Multiply line J by 1.30. (30% extra insurance to meet Total ampere - hours required	desired performan	ce)		АН	

Units are capable of recharging 65 AH battery max. If total ampere - hour required exceeds 50 AH, decrease AUX current to provide enough stand-by time for the application.

A.1 Four (4) Wire Smoke Detectors

Table A-1 below lists four (4) wire smoke detectors compatible with AL1042ADA220 AUX output.

Smoke Detector/Base	Detector Type	Max Standby Current (mA)	Alarm Current (mA)
FenWal CPD-7021 (w/70-201000-005 Base)	Ionization	0.10	*
FenWal PSD-7125	Photoelectric	0.10	*
FenWal PSD-7125 (w/70-201000-005 Base)	Photoelectric	0.10	*
Fire-Lite BLP-12-4W	Base	*	*
Gentex 824	Photoelectric	0.50	*
Gentex 824T	Photoelectric	0.50	*
Gentex 824CP	Photoelectric	0.50	*
Gentex 824CPT	Photoelectric	0.50	*
Hochiki HSC-4R	Base	*	*
Hochiki SPB-24	Projected Beam	0.25	*
System Sensor B112LP	Base	0.12	36
System Sensor B114LP	Base	*	*
System Sensor B404B	Base	*	*
System Sensor DH100ACDC	Photoelectric	0.15	0.70
System Sensor DH100ACDCLP	Photoelectric	0.15	0.70
System Sensor DH100ACDCLPW	Photoelectric	0.15	0.70
System Sensor DH400ACDCI	Ionization Duct	25	95
System Sensor DH400ACDCP	Photoelectric Duct	25	95
System Sensor 1112/24/D	Ionization	0.05	50
System Sensor 1424	Ionization	0.10	41
System Sensor 1451 (w/B402B Base)	Ionization	0.10	39
System Sensor 2112/24ATR	Photoelectric	0.50	60/70
System Sensor 2112/24AITR	Photoelectric	0.50	60/70
System Sensor 2112/24/D	Photoelectric	0.05	50
System Sensor 2112/24R	Photoelectric	0.50	60/70
System Sensor 2112/24TR	Photoelectric	0.50	60/70
System Sensor 2112/24T/D	Photoelectric w/135° Thermal	0.05	50
System Sensor 2112/24TSRB	Photoelectric w/135° Thermal Supervisory Relay	15	45
System Sensor 2312/24TB	Photoelectric	0.12	50
System Sensor 2412 (12 volt)	Photoelectric	0.12	77
System Sensor 2412AT (12 volt)	Photoelectric	0.12	58
System Sensor 2412TH (12 volt)	Photoelectric	0.12	77
System Sensor 2424	Photoelectric	0.10	41
System Sensor 2424TH	Photoelectric	0.10	41
System Sensor 2451	Photoelectric	0.10	39
System Sensor 2451TH (with/B402B Base)	Photoelectric	0.10	39
System Sensor 2W-MOD	Loop Test/Maintence Mod.	30	50

A.1 Four (4) Wire Smoke Detectors (cont.):

Smoke Detector/Base	Detector Type	Max Standby Current (mA)	Alarm Current (mA)	
System Sensor 4W-B (12/24 volt)	Photoelectric I ³	0.05	23	
System Sensor 4WT-B (12/24 volt)	Photoelectric I ³ w/Therm	0.05	23	
System Sensor 4WTA-B (12/24 volt)	I ³ Photo w/Therm/Sounder	0.05	35	
System Sensor 4WTR-B (12/24 volt)	I ³ Photo w/Therm/Relay	0.05	35	
System Sensor 4WTR-B (12/24 volt)	I ³ Photo w/Therm/ Sounder/Relay	0.05	50	
System Sensor 4WITAR-B (12/24 volt)	I ³ Photo w/Isolated Therm/ Sounder/Relay	0.05	50	
System Sensor 2W-MOD2	I ³ Loop Test/Maintence Mod.	0.05	*	
System Sensor RRS-MOD	I ³ Reversing Relay/Sync Module	0.05	*	
System Sensor 6424	Projected Beam	10	28.4	
System Sensor Beam 1224(S)	Projected Beam	17	38.5	

A.2 Door Holders

Table A-2 below lists door holders compatible with AL1042ADA220 AUX output.

Manufacturer	Model	Туре	Current (mA)
Edwards	DH150A	Floor Mount	96
Edwards	DH154A	Floor Mount	96
Edwards	DH158A	Surface Mount	96
Rixon Firemark	FM-980	Floor Mount, single	68
Rixon Firemark	FM-996	Surface Wiring	68
Rixon Firemark	FM-998	Concealed Wiring	68

A.3 Relays

Table A-3 below lists relays compatible with AL1042ADA220 AUX output.

Manufacturer	Model	Current (mA)
	MR-101/C	15
	MR-201/C	35
Air Products &	PAM-1	15
Controls, LTD	PAM-2	15
	PAM-SD	15
	A77-716B	20

Manufacturer	Model	Current (mA)
System Sensor	PR-1	15
	PR-2	30
	PR-3	30
	EOLR-1	30
	R-10T	23
	R-14T	23
	R-20T	40
	R-24T	40
	R-10E	23
	R-14E	23
	R-20E	40
	R-24E	40

