HOCHIKI
america corporation

FN-642-ULADA
NAC Power Extender

Installation Guide
(See Application Guide for additional information)

MEA Approved

FM APPROVED

Rev. 042209

FN-642-ULADA - NAC Power Extender

Overview:

The Hochiki FN-642-ULADA is an extremely cost effective 6.5 amp remote power supply/battery charger. It may be connected to any 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 6.5 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:

Agency Listings:

- UL Listed Control Units and Accessories for Fire Systems (UL 864).
- MEA - NYC Department of Buildings Approved.
- CSFM - California State Fire Marshal Approved.
- FM - Factory Mutual Approved.
- NFPA 72 Compliant.

Input:

- Power input 120VAC 60 Hz, 4 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:

- Class 2 Rated power limited outputs.
- 24VDC voltage regulated power limited outputs.
- 6.5 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 42 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 42 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 30 seconds with optional 2.5 to 3 hour delay setting (field selectable).

Supervision (cont.):

- Instant local AC trouble reporting relay (form “C” contact, 1 amp / 28VDC).
- 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.
- Temporal Code 3, Steady Mode, Input to Output Follower Mode (maintains synchronization of notification appliances circuit).
- Compatible with 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 for external trouble signals tie-in.
- Ground fault detection.

Added Features:

- Unit includes power supply, logic board enclosure, cam lock, and battery leads.

Enclosure Dimensions and Descriptions:

Enclosures:

FN-642-ULADA-G (Grey Enclosure)
FN-642-ULADA-R (Red Enclosure)
FN-642-ULADA-C (Charcoal Grey Enclosure)
FN-642-ULADA-B (Black Enclosure)
Dimensions: 18"H x 14.5"W x 4.5"D

Product Weight:

20 lbs.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture. This installation should be made by qualified service personnel and should conform to all local codes.

Power Supply Specifications:

AC Input:	120VAC 60Hz, 4 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 6.5 amp in Alarm Condition.
Battery:	Use two (2) 12VDC / 7AH, two (2) 12VDC / 12AH or two (2) 12VDC / 40AH batteries connected in series.
Stand-by/Alarm Current Consumption:	90mA/175mA
EOL Resistor (end of line):	2.2K (2200 ohm), Hochiki Model # AL-EOL22 (included).
Ground fault maximum test impedance:	1000 ohm.

Stand-by Specifications:

Stand-by Batteries	Stand-by Time Total Amp/Minutes	Alarm Output Current	Aux. Output
24VDC/7AH	24 Hours	6.5 amp/5 minutes	–
24VDC/12AH (use two (2) 12VDC batteries in series)	24 Hours	6.5 amp/5 minutes	50mA
24VDC/40AH	24 Hours	6.5 amp/5 minutes	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 6.5 amp total alarm current. (example: AUX1 = 1 amp, AUX2 = 1 amp, outputs up to 6.5 amp).

Installation Instructions:

Wiring methods shall 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 dry use only.

Carefully review:

Application Guide for FN-642-ULADA, FN-842-ULADA, FN-1042-ULADA
Power Supply Output Specifications (pg. 3)
Stand-by Specifications (pg. 3)
Output Programming Selection Table (pg. 4)
Sync Mode Selection Table (pg. 4)
Terminal Identification Table (pgs. 5-6)
LED Diagnostics (pg. 6)

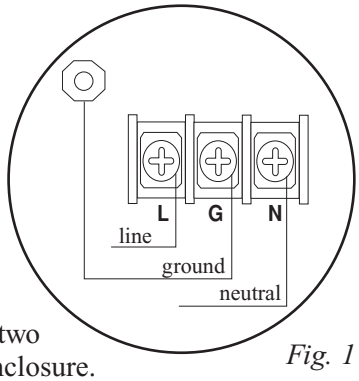


Fig. 1

1. Mount the unit in 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 the two fasteners. Place the enclosure's upper keyholes over the two upper screws. Install the two lower screws and make sure to tighten all screws *(Enclosure Dimensions, pg. 8)*. Secure enclosure to earth ground *(Fig. 1, pg. 3)*. Small terminal block wire gauges range from 16 AWG to 24 AWG, all others range from 14 AWG to 24 AWG.
2. Connect the line (L), ground (G), and neutral (N) terminals to a separate unswitched AC circuit (120VAC, 60Hz) dedicated to the Fire Alarm System.
3. Measure output voltage before connecting devices. This helps avoid potential damage.
4. Connect battery to 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).*
6. Connect FACP output to desired AL842LGK logic board inputs, and notification appliances to desired AL842LGK logic board outputs *(see 42 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 Hookup Diagram, pg. 7).*

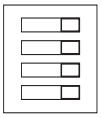
Output Programming Selection Table:

Outputs must be programmed independently (OUT1 - OUT4)

Function	Switch Positions		Descriptions
	ON	OFF	
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.

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)



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. The FACP must be capable of a visual annunciation to the silencing status of the output or zone(s) to which the FN-642-ULADA (NAC Power Extender) is connected.

Sync Mode Selection Table:

Function	Switch Positions		Descriptions
	ON	OFF	
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 CooperWheelock.	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.

Note: The FN-642-ULADA will only synchronize horns, horn/strobes and strobes that contain synchronization capability.
Contact signal manufacturer for more detailed info *(see Appendix A.4, pg. 12)*.
The same synchronization mode must be selected for all outputs.

Amount of Notification Appliances per unit:

Amseco	27 per NAC*
Faraday	39 per NAC*
Gentex®	32 per NAC*

System Sensor®	32 per NAC*
CooperWheelock®	32 per NAC*

**Not to exceed a maximum of 2.5 amp per NAC.*

Terminal Identification Table:

Terminal Legend	Function/Description
IN1+, IN1 – IN2+, IN2 – (Supervised)	These terminals connect to the 24VDC FACP notification appliance circuit outputs. (Class A, Style Z or Class B, Style W, X, Y) Input trigger voltage is 8-33VDC @ 5mA min. Terminal polarity is shown in alarm condition. During an alarm condition these inputs will cause the selected outputs chosen to drive notification appliances. The designated outputs are set by output switches [OUT1 through OUT4] *(Output Programming Selection Table, pg. 4)*. 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] *(Output Programming Selection Table, pg. 4)*. 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 *(see 42 Application Guide, pgs. 2-4)*. Each power limited 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 6.5 amp *(see note below)*. Outputs are controlled by designated input 1 [IN1] or input 2 [IN2] *(Output Programming Selection Table, pg. 4)*. 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). *(Fig. 2e, pg. 7)*.
NC, C, NO (Common trouble output)	These are dry contact trouble outputs that report any general loop/system trouble conditions. (Typically used to trigger a digital communicator or other reporting devices). (form "C" contact 1 amp / 28VDC 0.35 Power Factor) *(Fig. 2, pg. 7)*.
– AUX1 +	This separate 1 amp max. auxiliary Special Application Power output circuit is typically used to power 4-wire smoke detectors. See attached list of devices *(Appendix A, pgs. 10-12)*.
– 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 the *(Battery Calculation Worksheet, pg. 9)* to determine battery size and/or allowable stand-by and alarm current.
+ DC –	24VDC from power supply.

AL842LGK - Logic Board

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" pg. 3 for ratings. When loads are connected to the "AUX1" and or "AUX2" outputs during alarm condition, the remaining outputs may, not exceed 6.5 amp total alarm current. (example: AUX1 = 1 amp, AUX2 = 1 amp, outputs up to 6.5 amp).

Terminal Identification Table:

Terminal Legend	Function/Description
L, G, N	Connect 120VAC to these terminals: L to Hot, N to Neutral, G to ground.
– DC +	24VDC @ 6.5 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 indicate 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 *(Fig. 2, pg. 7)*.
+ BAT –	Stand-by battery input (leads provided) *(Fig. 2, pg. 7)*.

AL600ADA - Power Supply Board

**Power Board Parameter Specifications:*

- AC Fail condition will report approximately 30 seconds after loss of AC. To delay report for 2.5 to 3 hours cut jumper AC DELAY on the Power Supply Board (AC trouble output delay option). If this mode is selected the Power Supply Board must be reset by removing all power to it for 30 seconds.
- Low battery condition will report at approximately 21VDC.
- Battery presence detection will report with in 180 seconds after battery remains undetected (missing or removed). A restored battery will report within 30 seconds.

LED Diagnostics:

AL600ADA - Power Supply Board

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.

AL842LGK - Logic Board

LED	OFF	ON	BLINK (LONG)*	BLINK (SHORT)**
ON	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
ON	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
OFF	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
OFF	Normal	Alarm Condition	Trouble Condition	Trouble Condition Memory
Input 1	Normal	Alarm Condition	Trouble Condition	–
Input 2	Normal	Alarm Condition	Trouble Condition	–
Fault	Normal	Alarm Condition	–	–

***** 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 units 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. 2c, pg. 7)*. The LED(s) will extinguish.

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

Hookup Diagram:

Fig. 2

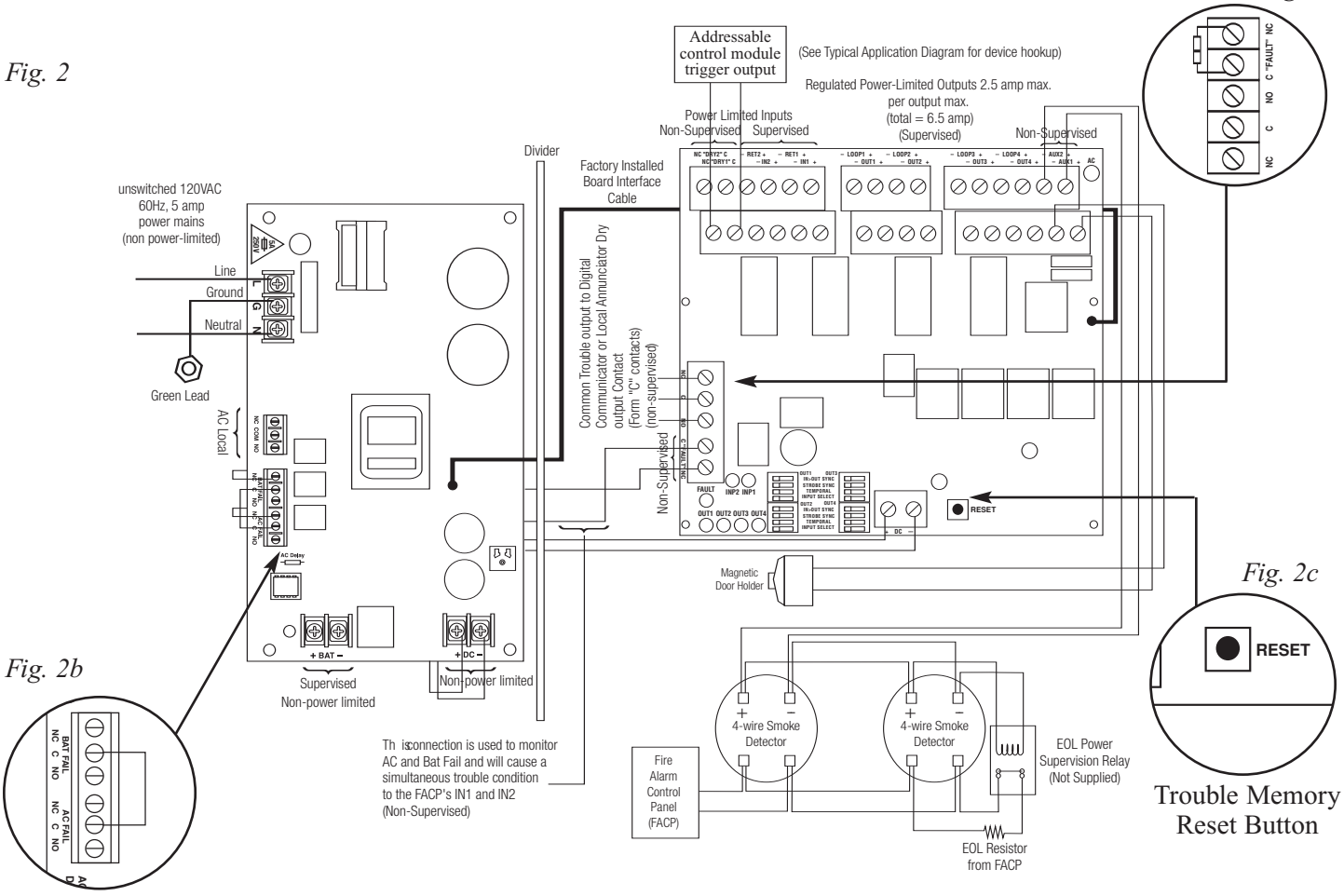


Fig. 2a

Fig. 2b

Fig. 2c

Trouble Memory Reset Button

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, *(see Power Board Parameter for use of AC Delay, pg. 6)*

   To report AC and Battery Trouble connect the battery and AC Fail relay output shown in (*Fig. 2a*) to the common trouble input.

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

   Connection to triggering devices must be made within 20ft of distance and using conduit for wiring.

3- Auxiliary output (-AUX+) 24VDC at 1 amp max.

4- AC Local [NC, NO, C] should connect to the host control panel for local annunciation of the trouble condition.

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

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 battery terminal and at the board terminals marked [+ BAT –] to insure there is no break in the battery connection wires.
Fuses: Check input fuse on the power supply board, replace if necessary. Input fuse rating is 5 amp @ 250V.
Note: Maximum charging current is 650mA.
Note: Expected battery life is 5 years, however it is recommended changing batteries in 4 years or less if needed.

Battery Calculation Worksheet

	Device	Number of Devices	Current per Device		Stand-by Current	Alarm Current
For each device use this formula:		This column x	This column =	Equals	Current per number of devices.	
FN-642-ULADA (Current draw from battery)		1	Stand-by:	90mA	90mA	
			Alarm:	175mA		175mA
A	**FN-642 Current**				90mA	175mA
Auxiliary Devices			Refer to device manual for current ratings.			
			Alarm/Stand-by	mA	mA	mA
			Alarm/Stand-by	mA	mA	mA
			Alarm/Stand-by	mA	mA	mA
B	**Auxiliary Devices Current (must not exceed 1 amp)**					
			Refer to device manual for current ratings.			
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
			Alarm:	mA	0mA	mA
C	Notification Appliances Current must not exceed 6.5 amp (6500mA) 0mA					mA
D	Total alarm current				mA	mA
E	Total current ratings converted to amperes (line D x .001)				A	A
F	Number of standby hours (24 for NFPA 72, Chapter 1, 1-5.2.5).				H	
G	Multiply lines E and F. Total stand-by AH				AH	
H	Alarm sounding period in hours. (For example, 5 minutes = .0833 hours.)					H
I	Multiply lines E and H. Total alarm AH					AH
J	Add lines G and I. Total stand-by and alarm AH				AH	
K	Multiply line J by 1.30. (30% extra insurance to meet desired performance) Total ampere - hours required				AH	

Units are capable of recharging 40AH battery max. If total ampere - hour required exceeds 40AH, 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 FN-642-ULADA 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	.05	23
System Sensor 4WT-B (12/24 volt)	Photoelectric I^3 w/Therm	.05	23
System Sensor 4WTA-B (12/24 volt)	I^3 Photo w/Therm/Sounder	.05	35
System Sensor 4WTR-B (12/24 volt)	I^3 Photo w/Therm/Relay	.05	35
System Sensor 4WTR-B (12/24 volt)	I^3 Photo w/Therm/ Sounder/Relay	.05	50
System Sensor 4WITAR-B (12/24 volt)	I^3 Photo w/Isolated Therm/Sounder/Relay	.05	50
System Sensor 2W-MOD2	I^3 Loop Test/Maintence Mod.	.05	*
System Sensor RRS-MOD	I^3 Reversing Relay/Sync Module	.05	*
System Sensor 6424	Projected Beam	10	28.4
System Sensor Beam 1224(S)	Projected Beam	17	38.5
* Contact manufacturer for current draws			

A.2 Door Holders

Table A-2 below lists door holders compatible with FN-642-ULADA AUX output.

Manufacturer	Model	Type	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 FN-642-ULADA AUX output.

Manufacturer	Model	Current (mA)
Air Products & Controls, LTD	MR-101/C	15
	MR-201/C	35
	PAM-1	15
	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

A.4 Strobes

Table A-4 below lists strobes compatible with FN-642-ULADA NAC output.

Wheelock Devices:

Sychronizing Horns	
AH-12	HNR
AH-12WP	AH-24AH-24
HS-24	AH-24WP
NH-12/24	MIZ-24S
ZNH	HNW

Sychronizing Horn Strobes		
AS-121575W	HS4-24MCWH	AS-24100C
AS-24MCW	HS4-24185W	NS-121575W
AS-24MCWH	ZNS-MCW	NS-2-41575W
AS-2415C	ZNS-MCWH	NS-24MCW
AS-2475C	HSR	HS4-24150C
ASWP-2475W	AS-241575W	HSW
NS4-121575W	AS-24MCC	
HS4-241575W	AS-24MCCH	
HS4-24MCW	AS-2430C	

Sychronizing Strobes		
RSS-121575W	RSS-2475CR	ZRS-MCW
RSS-241575W	RSS-24100CR	ZRS-MCWH
RSS-24MCW	RSS-24150C	STR
RSS-24MCC	RSS-24177C	RSSP-121575W
RSS-2415C	RSS-24150W	RSSP-241575W
RSS-2430C	RSS-24177W	RSSP-24MCW
RSS-2475C	RSS-24185W	RSSP-24150W
RSS-24100C	RSS-24150CR	RSSP-24177W
RSS-2415CR	RSS-24177CR	RSSP-24185W
RSS-2430CR	RSSWP-2475W	STW

Appliances with Sychronizing Strobes			
AMT-241575W	E70-24MCC	ET70-24MCWH	CH90-24MCCH
AMT-2475W	E70-2415C	ET70-24185W	CH90-24185W
AMT-241575W-NYC	E70-2430C	SA-70-24-SL	E90-24MCW
AMT-2475W-NYC	E70-2475C	SA-70-24-SLM	E90-24MCC
MT-12575W	E70-24100C	AMT4-241575W	E90-2415C
MT-241575W	E70-24150C	AMT4-2475W	E90-2430C
MTWP-2475W	E70-24177C	AMT4-241575W-NYC	E90-2475C
CH70-24MCW	E70-24150W	AMT4-2475W-NYC	E90-24100C
CH70-24MCC	E70-24MCWH	MT-2475W	E90-24150C
CH70-2415C	E70-24185W	ET70WP-2475W	E90-24177C
CH70-2430C	ET70-24MCW	CH90-24MCW	E90-24150W
CH70-2475C	ET70-24MCC	CH90-24MCC	E90-24MCCH
CH70-24100C	ET70-2415C	CH90-2415C	E90-24185W
CH70-24150C	ET70-2430C	CH90-2430C	ET90-24MCW
CH70-24177C	ET70-2475C	CH90-2475C	ET90-24MCC
CH70-24150W	ET70-24100C	CH90-24100C	ET90-2415C
CH70-24MCWH	ET70-24150C	CH90-24150C	ET90-2430C
CH70-24185W	ET70-24177C	CH90-24177C	SA-90-24-SL
E70-24MCW	ET70-24150W	CH90-24150W	SA-90-24-SLM

Wheelock Devices:

Coded Audible Appliances	
AMT - 12/24	AMT4 - 12/24
AMT - 12/24-NYC	AMT4 - 12/24-NYC
CH70	CH90
CSX10-24-DC	CSXG10-24-DC
MT-12/24	MT4-12/24

Non-Synchronizing Appliances	
MB-G6-12	MB-G6-24
MB-G10-12	MB-G10-24
MIZ-TC12	MIZ-TC24

Gentex Devices:

Models	
GE3 Series	SSPK Wall and Ceiling Mount Series
GES/GEC Series	GX93 Series
GCS/GCC Series	WGE and color lense units.

System Sensor Devices:

Wall Horn/Strobes	
P2R	P4R
P2RH	P4RH
P2RK	P4RK
P2RHK	P4RHK
P2W	P4W
P2WH	P4WH

Wall Strobes	
SR	SRHK
SRH	SW
SRK	SWH

Ceiling Horn/Strobes	
PC2R	PC4R
PC2RH	PC4RH
PC2RK	PC4RK
PC2RHK	PC4RHK
PC2W	PC4W
PC2WH	PC4WH

Ceiling Strobes	
SCR	SCRHK
SCRH	SCW
SCRK	SCWH

Horns
HR
HRK
HW

Amseco Devices:

Models		
H24R	SCM24C-177	SHB/SLB120-75
H24W	SCM24W075110	SHB/SLB24-75
HP-25T	SCM24W-153075	SHB2475
MH12/24	SCM24W3075110	SL24C-177
MH-120	SH24C-177	SL24C-3075110
RSD24-153075	SH24C-3075110	SL24W-1530
RSD24W75110	SH24W-1530	SL24W-75110
SAD-24-153075	SH24W3975110	SLB24-75
SAD2475110	SH24W-75110	

Faraday Devices:

Models		
HS-MC-R	SEF-HMC-W	SE-MC-R
HS-MC-W	SEF-MC-CW	SE-MC-W
HS-HMC-R	SEF-HMC-CW	SE-HMC-R
HS-HMC-W	ZH-MC-R	SE-HMC-W
HS-R	ZH-MC-W	SE-CR
HS-W	ZH-HMC-R	SE-CW
NS-MC-CR	ZH-HMC-W	SE-MC-CR
NS-MC-CW	ZH-R	SE-HMC-CW
NH-CR	ZH-W	SE-CR
NH-CW	ZH-MC-CR	SE-CW
SET-MC-R	ZH-MC-CW	SE-MC-CR
SET-MC-W	ZH-HMC-CR	SE-MC-CW
SET-HMC-R	ZH-HMC-CW	SE-HMC-CR
SET-HMC-W	ZR-MC-CW	SE-HMC-CR
SET-S17R-WP	ZR-MC-CW	AS-MC-R
SET-S17-W-WP	ZR-HMC-CR	AS-MC-W
SET-S17-CW-WP	ZR-HMC-CW	AS-HMC-R
SET-MC-CW	ZBB-R	AS-HMC-W
SET-MC-CR	ZBB-W	AS-MC-CR
SET-HMC-CW	MTH-R	AS-MC-CW
SET-HMC-CR	MTH-W	AS-HMC-CR
SET-177-CR-WP	MTH-MC-R	AS-HMC-CW
SET-177-CW-WP	MTH-MC-W	AS-75-R-WP
SET-185-R-WP	MTH-75-R-WP	AS-75-CR-WP
SET-185-W-WP	MTH-15-115-R-WP	AH-R
SEF-MC-R	MTH-HMC-CR-WP	AH-W
SEF-MC-W	MTH-HMC-R-WP	AH-WP
SEF-HMC-R	MTH-HMC-W-WP	

Notes:

Enclosure Dimensions:

18”H x 14.5”W x 4.625”D

