

# FA-103 and FA-106

Fire Alarm Control Panels





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## Introduction

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The FA-106 is a supervised six-zone 24VDC Fire Alarm Control Panel. The FA-103 is a supervised three-zone 24VDC Fire Alarm Control Panel. The panels are ULC listed and meet all performance and operational requirements of ULC. The FA-106 provides the following features:

- Six Class B (Style B) detection (IDC) zones
- Two Class B (Style Y) signal zones (NACs), 1.25A max per zone, 2A max total
- DIP switch selectable NAC outputs such as Temporal or Steady
- Alarm and trouble relay contacts
- Remote trouble buzzer and indication with the use of an RTI-1 Remote Indicator
- Individual zone silence/disable switch
- Buzzer silence button
- Subsequent alarm operation
- LED indicators for zone alarm and trouble, A.C. Power On, Common Trouble, Ground Fault, Battery Fault, CPU Fault, Signal Silenced and Common Alarm.

The FA-103 has the same features as above except there are only three detection zones. The enclosures and boards are identical except the FA-103 is depopulated and has terminal connections for three detection zones only. Use of the reference “the panel” will apply to both models FA-106 and FA-103.

Models available are:

<b>FA-103</b>	Three detection zones, two NACs FACP with white door and black backbox.
<b>FA-103R</b>	Three detection zones, two NACs FACP with red door and black backbox.
<b>FA-106</b>	Six detection zones, two NACs FACP with white door and black backbox.
<b>FA-106R</b>	Six detection zones, two NACs FACP with red door and black backbox.

## Mechanical Installation

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The panel can be surface or flush mounted. Refer to Figure 1 on page 2 for dimensions.

### Surface Mounting

1. Mark the location of the four mounting holes.
2. Install the top two screws into the wall and place the panel over the screws.
3. Install the bottom screws and tighten down all four screws.

### Flush Mounting

1. Make the wall cut-out according to the panel dimensions.
2. Remove the control panel door.
3. Mount the flush mounting trim (model FA-102TR) to the back box using the screws and nuts provided with the flush mounting kit.
4. Re-install the door on top of the flush trim. The cam lock may require a minor adjustment in order to compensate for the flush trim.

Figure 1: Backbox and flush trim mounting details

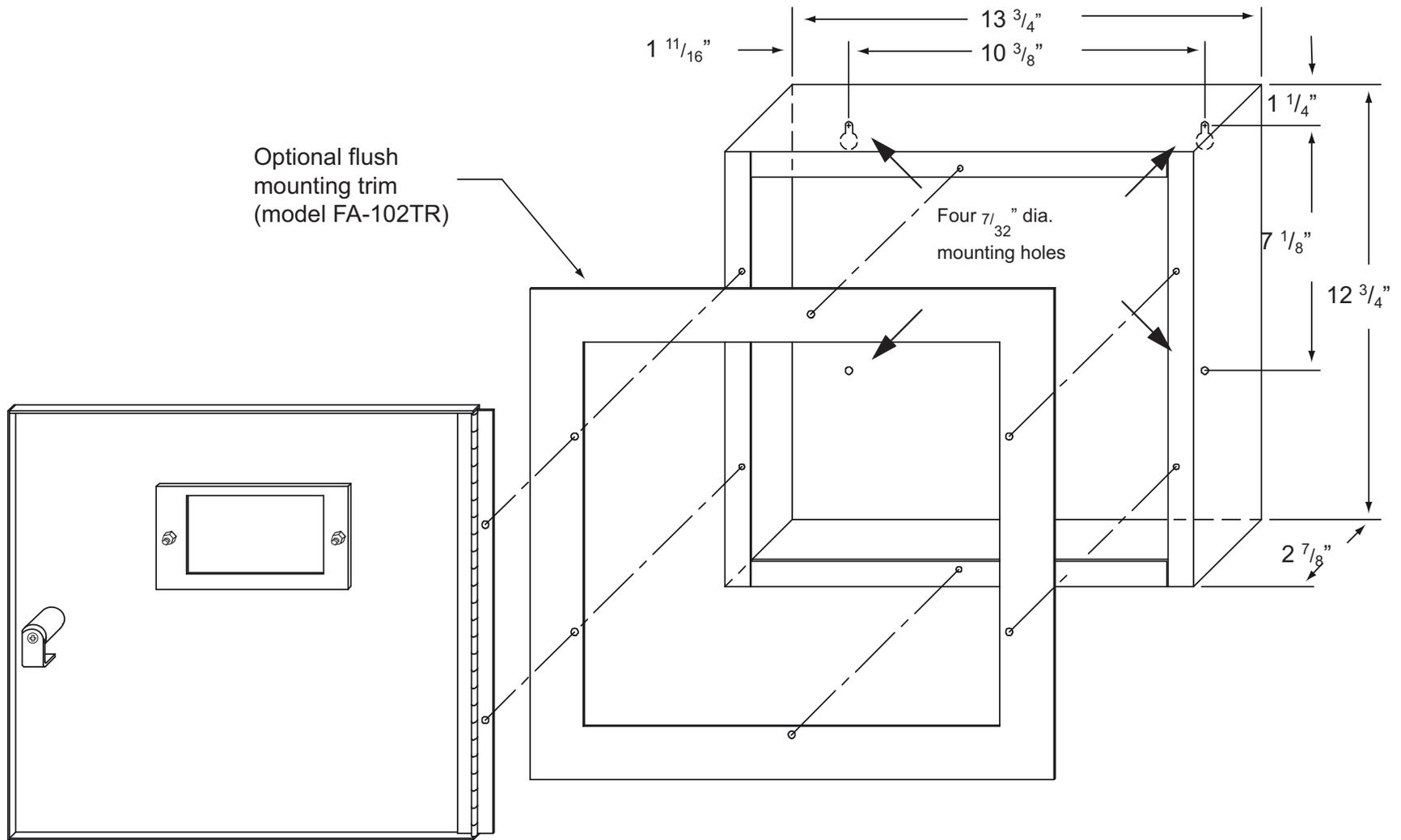
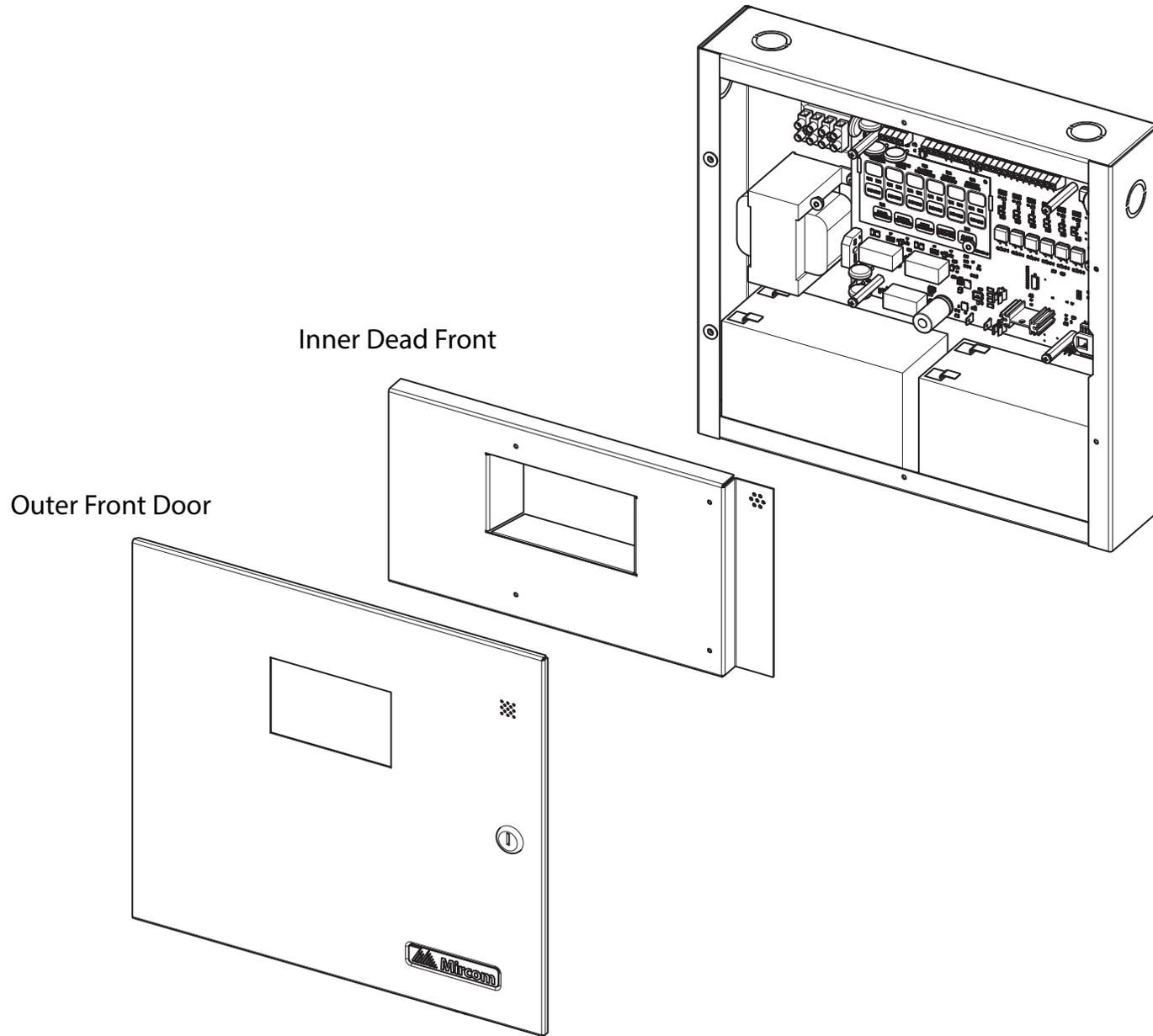


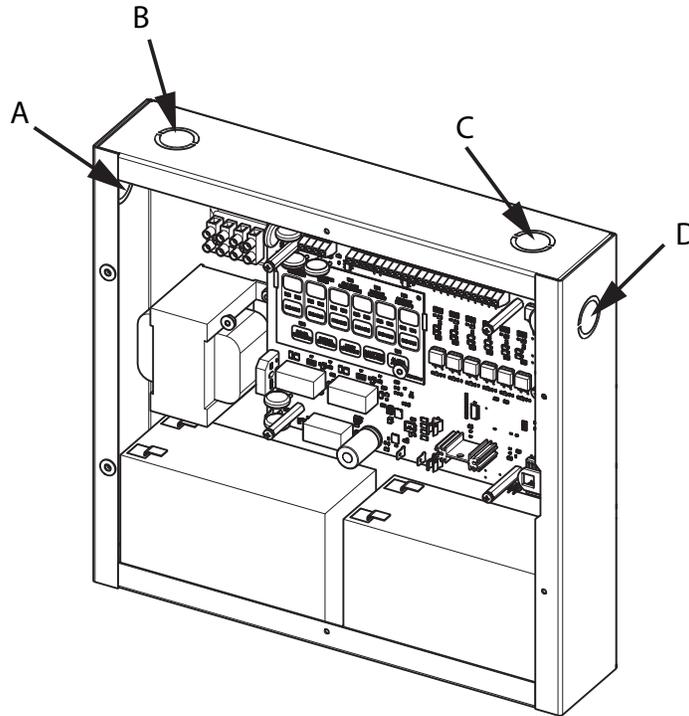
Figure 2: Assembly of FA-106 and FA-103 Fire Alarm Panels



## Conduits for Wiring

AC power must be run through a dedicated conduit, in knockouts A or B, shown in Figure 3. All other circuits are current limited, and must be run through knockouts C or D.

**Figure 3: Conduits for Wiring**



## Clearances

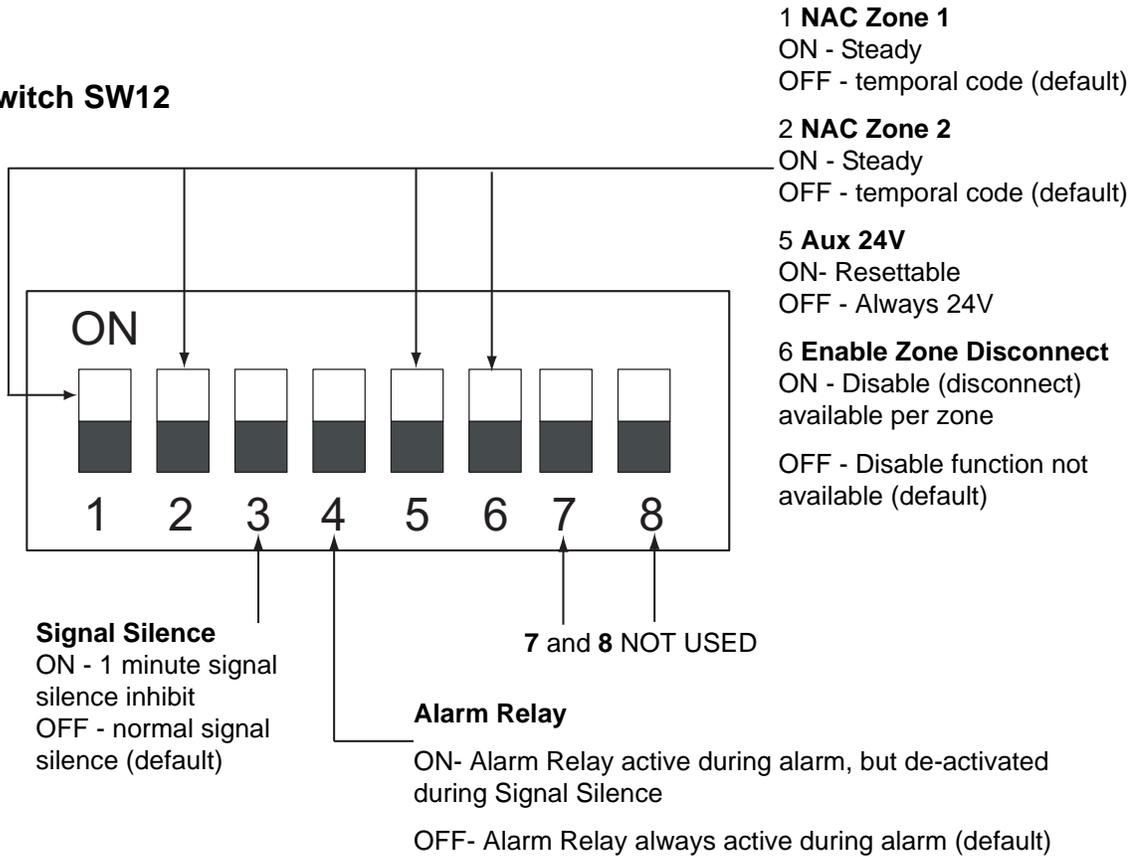
The controls shall be no less than 600 mm and no more than 1800 mm above the finished floor.

# DIP SWITCH SELECTION

DIP switch SW12 is used to set the preferred signal zone outputs, the signal silence inhibit, the detection zone operation and auxiliary functions. DIP switch SW12 is located in the bottom right corner of the main printed circuit board, refer to Figure 6 on page 7.

**Figure 4: Setting the DIP Switch functions**

**DIP switch SW12**



- **Temporal Code:** 3 rounds of 0.5 second ON, 0.5 second OFF, then 1.5 second pause.
- **Steady:** Signal on continuously.

# Wiring

## Detection (IDC) Zones

The system has six detection zones (three for the FA-103). Refer to Figure 7 on page 8 for wiring instruction and to Table 1 on page 9 for wire size.

## Signal (NAC) Zones

There are two signal zones available for bells and horns providing 1.25A maximum per zone with 2A maximum total signal power. Refer to Figure 7 on page 8 for NAC circuit for wiring instruction and to Table 2 on page 9 for wire size.

## Alarm and Trouble Relays

Alarm and trouble relay contacts are provided. Refer to Figure 8 on page 10 for contact location and designation.

## Remote Annunciation

Annunciation outputs are provided for connection to an RTI-1 Remote Trouble indicator. Refer to Figure 8 on page 10 for wiring instruction.

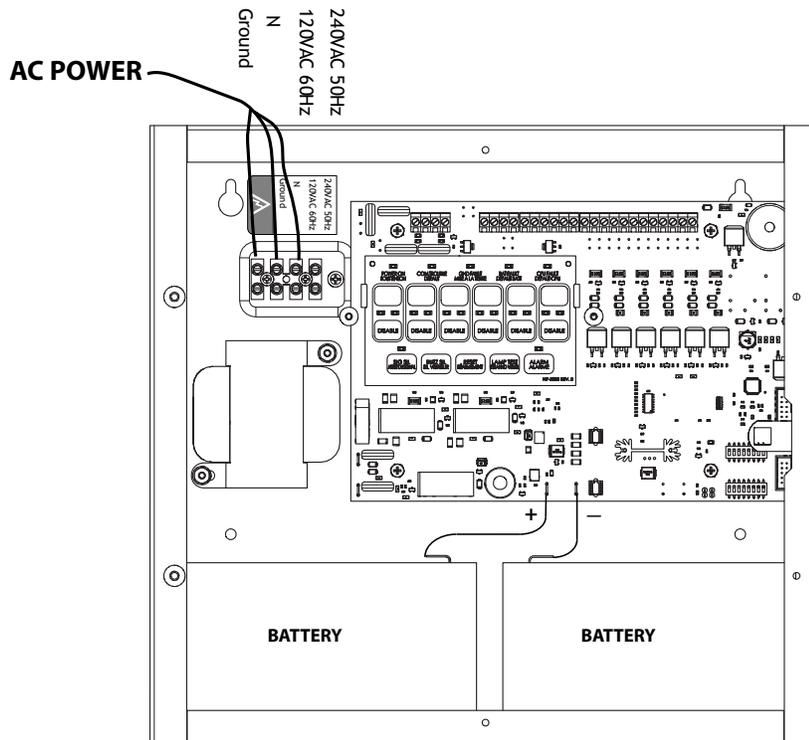
## A.C. Power and Batteries

The A.C. power is connected to the terminal block above the transformer.

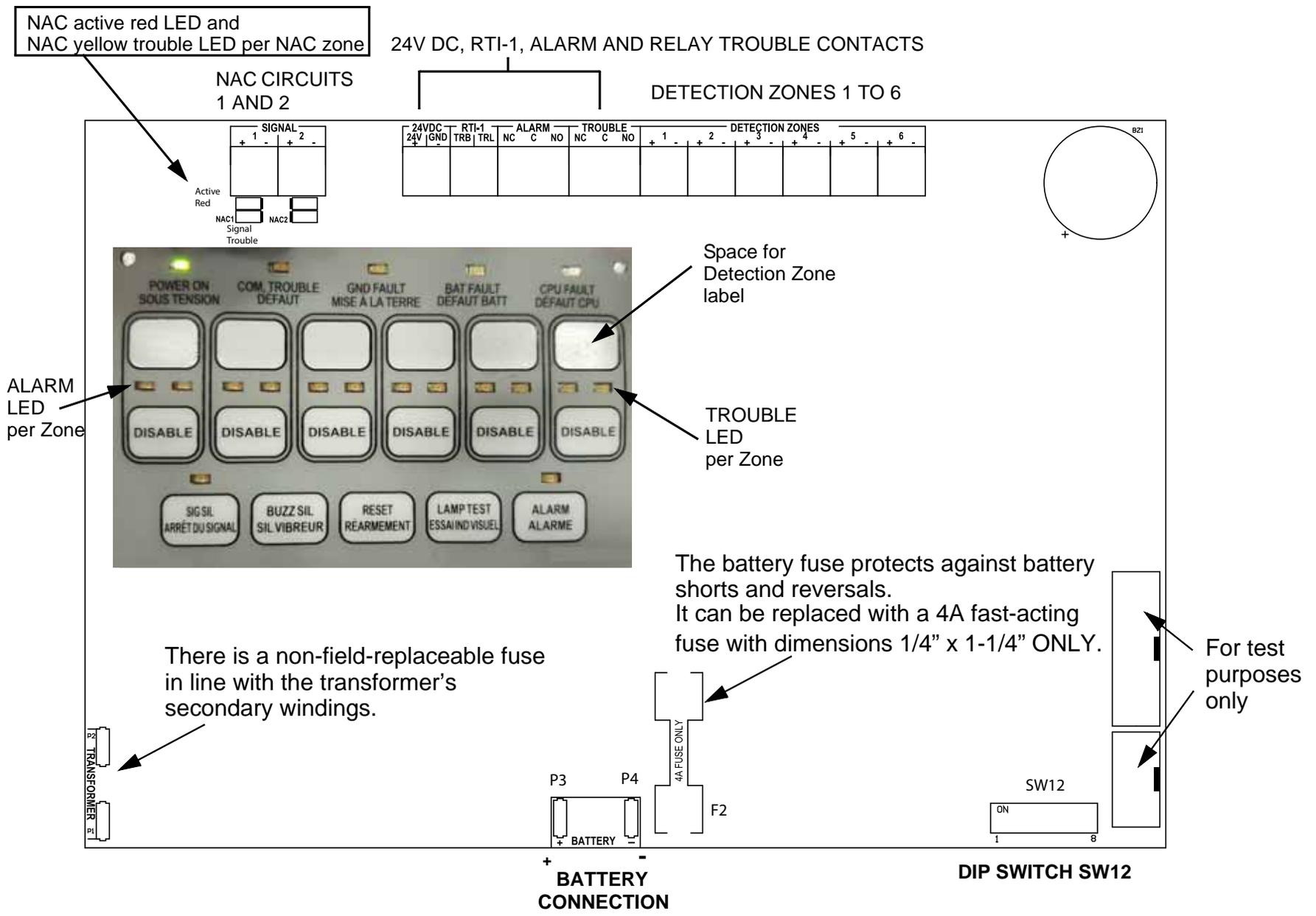
Use Gel Cell or Sealed Lead-Acid type of batteries only. Connect the batteries after power up. For greater accuracy, use the battery calculations chart located in Appendix C on page 16.

**ELECTRICAL RATING:** 120V, 60Hz, 1A / 240V, 50Hz, 0.5A

**Figure 5: A.C. Power and Battery Connection**



**Figure 6: Circuit Board Layout**



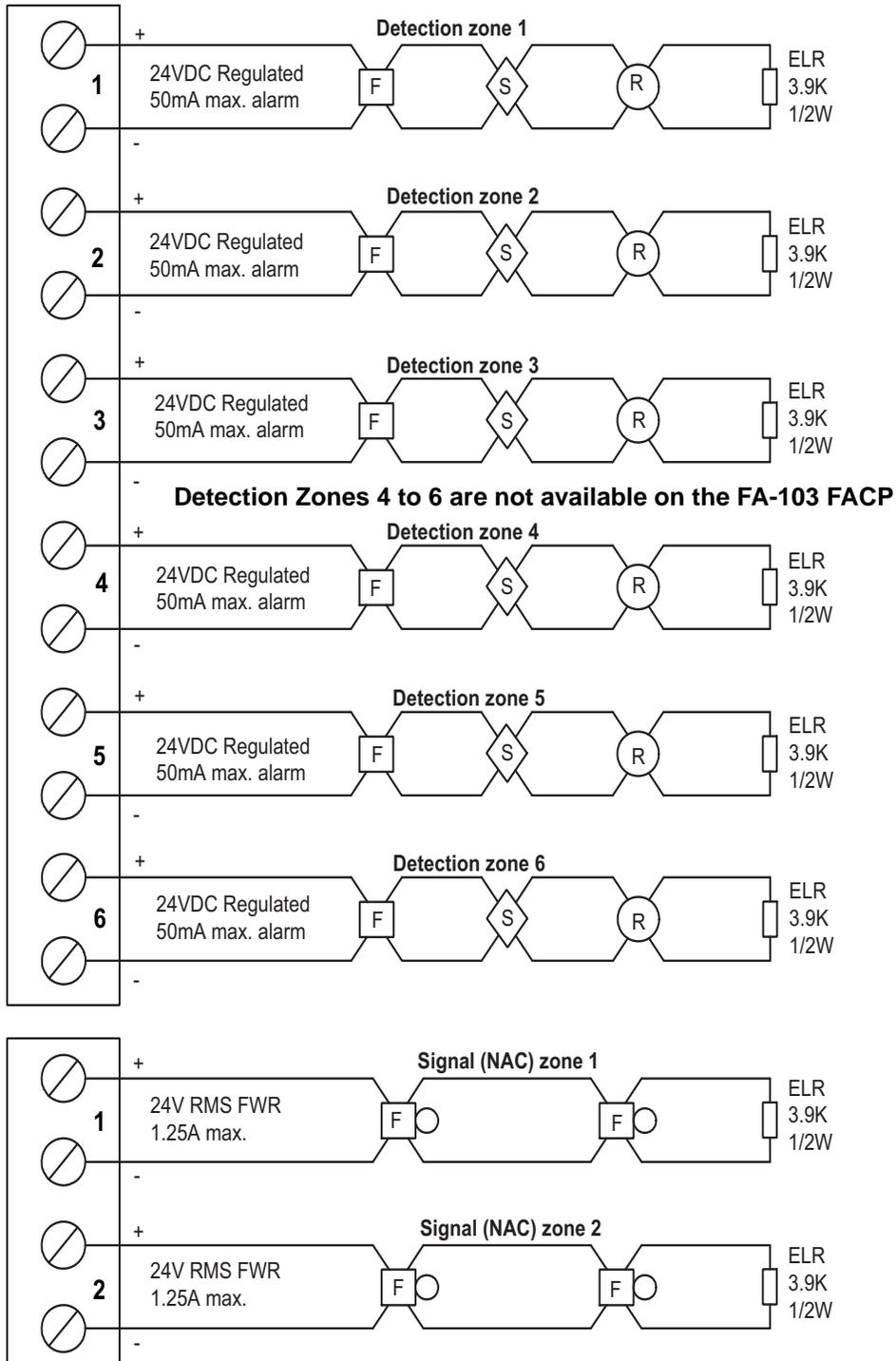
**Figure 7: Detection and signal wiring**

**Legend**



Alarm threshold current is 15.5 mA.  
Maximum loop resistance is 100 ohms.

0Ω shorts on Input and Output circuits will cause a trouble.  
Impedances of greater than 1MΩ Ohm on Input and Output circuits will cause a trouble.



**Note:** Whether mixing different models of compatible smoke detectors or using the same model on the same initiating circuit, the total standby current of all detectors must not exceed 3mA.

## Wiring Tables and Information



**Note:** The panel must be wired by a certified electrician in accordance with CEC part 1, section 32 “Fire alarm systems, fire pumps, and carbon monoxide alarms”.

**Table 1: Wiring table for detection zone**

Wire Gauge (AWG)	Maximum Wiring Run to Last Device (ELR)	
	ft.	m
18	7560	2300
16	12000	3600
14	19000	5800
12	30400	9200



**Note:** Maximum loop resistance should not exceed 100 ohms.

**Table 2: Wiring table for bells and horns**

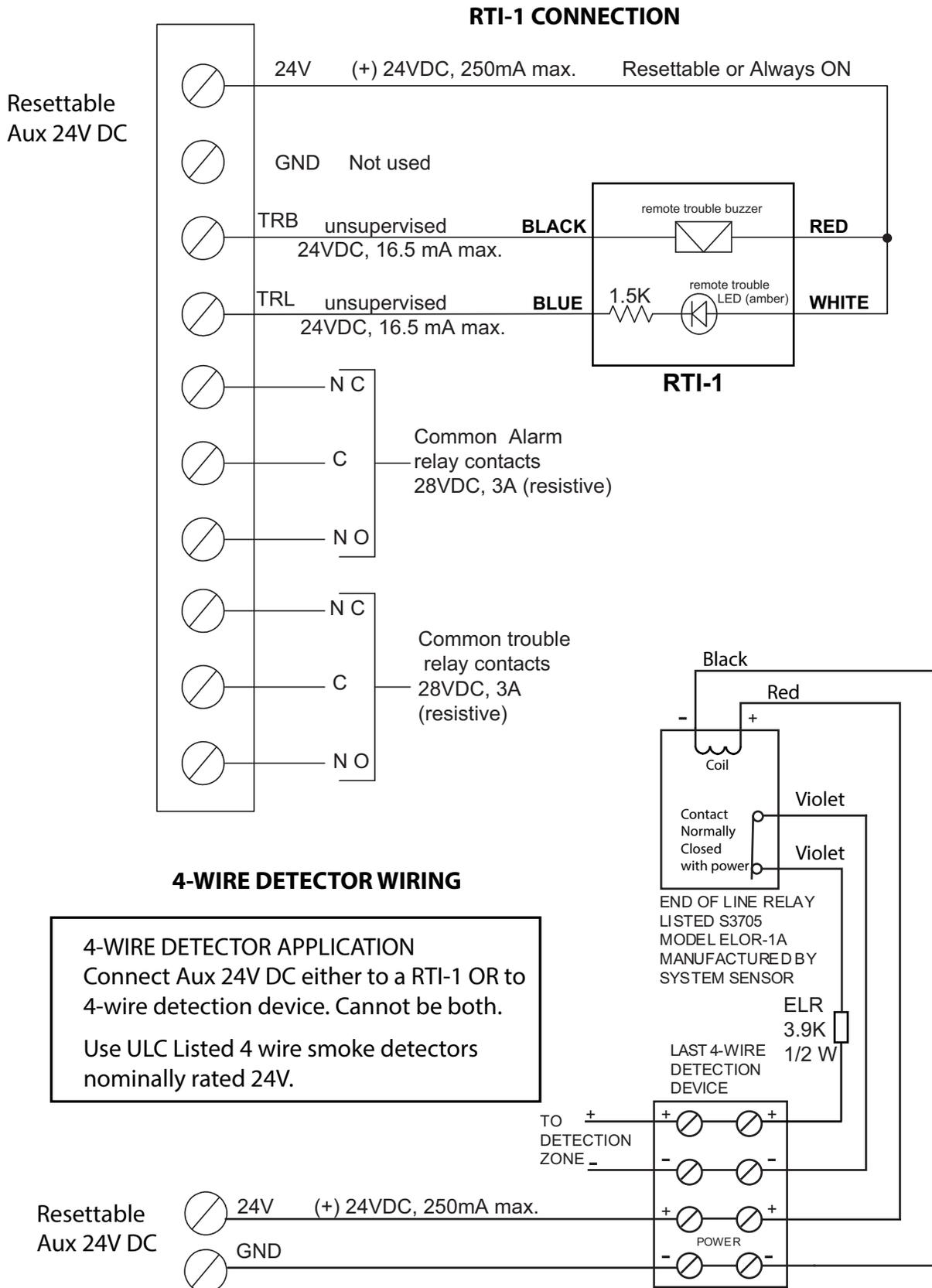
Signal circuits are rated for 1.25 amperes each.

Total Signal Load	Maximum Wiring Run to Last Device (ELR)								Max Loop Resistance
	18AWG		16AWG		14AWG		12AWG		
Amperes	ft.	m	ft.	m	ft.	m	ft.	m	Ohms
0.06	2350	716	3750	1143	6000	1829	8500	2591	30
0.12	1180	360	1850	567	3000	915	4250	1296	15
0.30	470	143	750	229	1200	366	1900	579	6
0.60	235	71	375	114	600	183	850	259	3
0.90	156	47	250	76	400	122	570	174	2
1.25	109	33	171	52	277	84	450	137	1.4



**Note:** Maximum voltage drop should not exceed 1.8 volts.

**Figure 8: Alarm and trouble relay contacts, remote annunciation and four-wire detector wiring instructions**



## Trouble Indicators and Controls

### Common Trouble LED

The yellow Common Trouble LED will flash and the buzzer will sound for any trouble in the panel.

### Buzzer/Buzzer Silence Pushbutton

The buzzer will sound intermittently for any trouble. The buzzer will sound steadily for any alarm in the system. Pushing the Buzzer Silence button will silence the buzzer. Any subsequent alarm will resound the buzzer.

### Detection Zone Trouble LED

The yellow Detection Zone Trouble LED (on the right) will flash for an open or bypass in the zone wiring. Refer to Figure 9 below and Figure 6 on page 7 for the location of indicators and control.

Label the individual detections zones on the NP-3334 blank label. Once complete, slide across into the front display.

### Ground Fault LED

Any ground fault of 1K ohms or less will flash the yellow Ground Fault LED, flash the yellow Common Trouble LED and sound the common trouble buzzer intermittently.

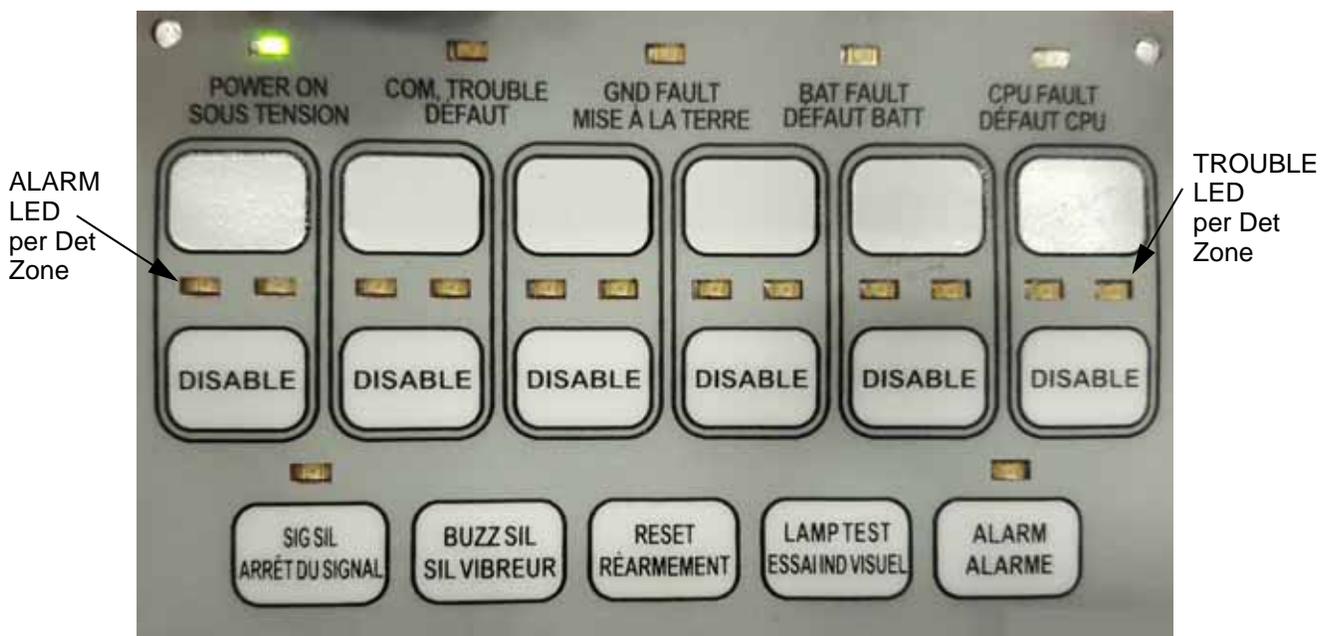
### Battery Fault LED

Battery removal, low voltage and open battery leads will flash the yellow Battery Fault LED, the yellow Common Trouble LED and the common trouble buzzer will sound intermittently.

### Detection Zone Disable

Pressing this button will disconnect the associated detection zone (if DIP switch SW12-6 is set in the ON position). This action will flash the yellow detection zone trouble LED and the yellow Common Trouble LED, activate the Common Alarm Relay and the buzzer will sound intermittently. Pressing the Disable button again will reconnect the detection zone. The Disable button will not function if the DIP switch SW12-6 is set in the OFF position.

**Figure 9: Front Panel Display**



# Sequence of Operation

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Refer to Figure 6 on page 7 for the location of indicators and controls.

## Normal

All indicators are normally OFF except for the green Power On LED. If there is an AC fail, the green Power On LED will flash, the yellow Common Trouble LED will flash and the buzzer will sound.

## Alarm

A red zone alarm LED will illuminate steadily for incoming alarm.

## Signal silence (SIG SIL)

If the 1 minute signal silence inhibit is selected, the signals cannot be silenced for 60 seconds after an alarm initiation. Once the 60 seconds have expired, pushing the signal silence button will silence all the bells and horns. Once the signals has been silenced, the yellow signal silenced LED will flash and the yellow common trouble LED will flash.

## Reset

Pushing the reset button will restore all latched functions in the panel. The Reset button will not function during the 1 minute signal silence inhibit time (if selected via DIP switch SW12-3). The Reset button will not affect the disabled zones (if used).

## Lamp Test

Press this button and hold to illuminate all the LEDs. **NOTE:** The CPU FAIL LED will not illuminate during Lamp Test.

# System Checkout

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Before turning the power on,

1. Check all external wiring for opens, shorts or grounds.
2. Check that transformer cables are securely connected.
3. Check the A.C. power wiring for proper connection. To prevent sparking, *do not* connect batteries.
4. Check all DIP switches are set as required.

# Power up and Troubleshooting

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1. After completing all of the system checkout procedures, power up the panel. The Power On LED should illuminate. The trouble buzzer should sound intermittently, and the Common Trouble LED should flash, indicating battery fault.
2. Connect the batteries carefully, observing the correct polarity. The Common Trouble LED should extinguish. If the Common Trouble LED stays on, check the front panel for illumination of the following LEDs:
  - **Battery LED** indicates that the battery voltage may be too low (below 20.4V).
  - **Ground Fault LED** indicates a ground on one or more of the extended wires.
  - **Zone Trouble LED** indicates an open loop on the detection zone specified.
  - **Common Trouble LED** alone indicates a possible open loop or short in the signal zone. To determine which NAC zone, you may view which NAC 1 or 2 yellow trouble LEDs is flashing (the main board top left LEDs), see Figure 6 on page 7.

## Appendix A: Electrical Specifications

<b>FA-106 Six Zone and FA-103 Three Zone Fire Alarm Control Panels</b>	
<b>Electrical ratings</b>	<p><b>AC line voltage</b> 120VAC 60Hz 1A / 240VAC 50Hz 0.5A, 4A fast blow fuse on secondary of transformer</p> <p><b>Power supply rating</b> 3 Amp maximum (secondary of transformer)</p>
<b>Battery</b>	<p><b>Type</b> 24VDC Gel Cell/Sealed lead acid – Models <b>BAT-12V5</b> and <b>BAT-12V7</b></p> <p><b>Charging compatibility</b> 5AH to 7AH</p> <p><b>Protection</b> 4A on board (F2) fast blow fuse</p> <p><b>Charging current</b> 0.67A</p> <p><b>Standby current rating at full load</b> 0.47A</p>
<b>Detection Circuits</b>	<p>6 supervised style Y (Class B) initiating circuits. Terminals are labelled as "Detection Zones 1, 2, 3, 4, 5, and 6".</p> <p>Detection circuits are Compatibility ID "A"</p> <p>Standby: 9 mA</p> <p>Alarm: 1 zone active 95mA  2 zone active 136mA  3 zone active 177mA  4 zone active 218mA (Zones 4 to 6 not available on the FA-103)  5 zone active 259mA  6 zone active 300mA</p> <p>Maximum current of Aux Power and Detector Circuits cannot exceed 300mA</p> <p>Operating voltage range: 22 VDC - 25 VDC</p>
<b>Signal (NAC) Circuits</b>	<p>2 supervised Class B (Style Y) indicating circuits. Terminals are labelled as "Signal 1 and 2"</p> <p><b>Rating</b> 24V FWR / 1.25A @ 49°C per circuit</p> <p><b>Max power allowed</b> Total 2.0A</p>
<b>Resettable (or Non-resettable) Auxiliary Power</b>	<p>24VDC, terminals are labelled as 24V and GND.  24VDC regulated / 250mA max</p>
<b>Auxiliary relays</b>	<p><b>Common Alarm/Trouble</b>  Must be connected to a listed power limited source of supply  Form C / 28VDC / 3A max</p>
<b>RTI-1 Remote Trouble Indicator</b>	<p>Remote Trouble Buzzer and Indicator. Terminals are labelled as TRB and TRL.  Standby 0 A / alarm 35mA</p>
<b>Environmental</b>	<p>Indoor use and dry locations  Temperature range from 0°C to 49°C, up to 93% relative humidity</p>

## Appendix B: Compatible Devices

### FA-106 and FA-103 Underwriters Laboratories Canada ULC Listed 2-Wire Smoke Detectors



**Notes:**

- Reset time, hold for five seconds minimum.
- Total standby current of all detectors must not exceed 3 mA.
- Two-wire smoke detectors can be mixed or matched with different models on the same Initiating Circuit as long as the total standby current of all detectors does not exceed 3mA.

Make Model / Base	Maximum # of devices per circuit	Make Model / Base	Maximum # of devices per circuit
<b>Mircom</b>		<b>System Sensor i3</b>	
MIR-525	30	C2W-BA c/w base	30
MIR-525T	30	C2WT-BA c/w base	30
<b>Apollo</b>		<b>System Sensor</b>	
<b>Series 60A Bases 45681-200,-220,-232,-251</b>		1400A	30
<b>Series 65A Bases 45681-255,-256,-257,-258</b>		2400A	25
55000-325	30	1451A/B401BA	25
55000-326	30	2451A/B401BA	25
55000-327	30	1100	25
55000-328	30	1151A/ B110LPA	25
<b>Hochiki</b>		1151A/ B116LPA	25
DCD-135/HSC-220R	12	1451A/B401A	25
DCD-135/NS6-220	12	1451A/ B406BA	25
DCD-190/HSC-220R	12	1451DH/ DH400	25
DCD-190/NS4-220	12	2100A	30
DCD-190/NS6-220	12	2100TA	30
SU-24/HSC-220R	12	2151A/ B110LPA	15
SU-24/NS4-220	7	2151A/ B116LPA	25
SU-24/NS6-220	7	2400THA	25
SLR-24/HSC-220R	12	2451A / B401BA	25
SLR-24/NS4-220	12	2451A / B406BA	25
SLR-24/NS6-220	12	2451A / DH400	25

Make Model / Base	Maximum # of devices per circuit	Make Model / Base	Maximum # of devices per circuit
<b>MGC Systems Corp.</b>		<b>System Sensor (continued)</b>	
SD-100-2WP/SDB-104-2, SDB-104-4, SDB-106-4	21	2451THA / B401BA	25
SD-100-2WT/SDB-104-2, SDB-104-4, SDB-106-4	21	2451THA / B406BA	25
<b>Detection Systems Inc.</b>		2451A / B401A	25
DS282TH	30	2451THA / B401A	25
<b>Siemens</b>		5451A / B401BA	25
HI121 / (DB-11/DB-11C)	20	5451A / B401A	25
OH121 / (DB-11/DB-11C)	20	5451A / B406BA	25
OP121 / (DB-11/DB-11C)	20		
<b>Sentrol - ESL</b>			
429CST	30		
429CRT	30		
713-6U / 701E, 701, 702E, 702	30		
721U / 702E, 702U	30		
721UT / 702E, 702	30		
722U / 702E, 702U	30		
731U / 702E, 702U, 702RE, 702RU	30		
732U / 702E, 702U, 702RE, 702RU	30		

# Appendix C: Battery Calculations (Selection Guide)

Use the form below to determine the required batteries.

IMPORTANT NOTICE							
The main AC branch circuit connection for the Fire Alarm Control Unit must provide a dedicated continuous power without provision of any disconnect devices. Use #12 AWG wire with 600-volt insulation and proper over-current circuit protection that complies with the local codes.							
Power Requirements (All currents are in amperes)							
Model Number	Description	Qty		Standby	Total Standby	Alarm	Total Alarm
FA-106	Fire Alarm, 6 Det, 2 Sig		X	0.170	=	0.262	=
FA-103	Fire Alarm, 3 Det. 2 Sig		X	0.143	=	0.244	=
RTI-1	Remote Trouble Indicator		X	0.035	=	0.035	=
2-Wire Smoke Detectors			X	♦ 0.0001	=	* 0.090	= 0.090
4-Wire Smoke Detectors			X		=		=
Signal Load (bells, horns, strobes, and etc.)							=
Auxiliary Power Supply							
Total currents (Add above currents)				Standby	(A)	Alarm	(B)

### Total Current Requirement

ALARM (B) \_\_\_\_\_ Amps.

### Battery Capacity Requirement

$$([\text{STANDBY (A)} \text{ _____}] \times [(24 \text{ or } 60 \text{ Hours}) \text{ _____}]) + ([\text{ALARM (B)} \text{ _____}] \times [ \clubsuit \text{ Alarm in Hr.} \text{ _____}]) = (\text{C}) \text{ _____ AH}$$

### Battery Selection

Multiply (C) by 1.20 to derate battery.



**Note:** Batteries BAT-12V5A (5 AH) and BAT-12V7A (7 AH) fit in the backbox; all larger batteries such as BAT-12V12A (12AH) and the BAT-12V18A (18AH) require an external battery box.

- \* Assuming three initiating circuits in alarm.
- ♣ Use 0.084 for five minutes of alarm as a multiplier figure.
- ♦ Using the C2W-BA 2-wire smoke detector. See Appendix B, for other available smoke detectors.

# Master Warranty and Warning Information

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## Terms & Interpretation

In this document the term **MGC System** refers to all fire alarm, nurse call, and building automation products manufactured by Mircom Group of Companies, Mircom Technologies Ltd., MGC Systems Corp or subsidiaries and affiliates and includes specific systems such as MiCare™, OpenBAS™, and FlexNet™. Moreover, the term **MGC System** extends to cover all component parts and software used within such products.

## Warning Please Read Carefully

All **MGC Systems** are subject to terms and conditions of sale as follows:

## Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this MGC System. Failure to properly inform system end-users of the circumstances in which the system might fail may result in over-reliance upon the system. As a result, it is imperative that you properly inform each customer for whom you install the system of the possible forms of failure.

## System Failures

All **MGC Systems** have been carefully designed to be as effective as possible. However, there are circumstances where they may not provide protection. Some reasons for system failure include:

## Inadequate Installation

All **MGC Systems** must be installed in accordance with all the applicable codes and standards in order to provide adequate protection. National standards require an inspection and approval to be conducted by the Local Authority Having Jurisdiction following the initial installation of the system and following any changes to the system. Such inspections ensure installation has been carried out properly.

## Inadequate Testing

Most problems that would prevent an alarm a **MGC System** from operating as intended can be discovered by regular testing and maintenance. The complete system should be tested by the Local Authority Having Jurisdiction immediately after a fire, storm, earthquake, accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

**IMPORTANT NOTE:** End-users of the system must take care to ensure that the system, batteries, telephone lines, etc. are tested and examined on a regular basis to minimize system failure.

## System Users

It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

A **MGC System** may not function as intended during an emergency situation where the user is unable to operate a panic or emergency switch by reason of permanent or temporary physical disability, inability to reach the device in time, unfamiliarity with the correct operation, or related circumstances.

## Insufficient Time

There may be circumstances when a **MGC System** will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time enough to protect the occupants or their belongings.

Moreover, smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

## Power Failure

Some **MGC System** components require adequate electrical power supply to operate. Examples include: smoke detectors, beacons, HVAC, and lighting controllers. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage **MGC Systems** or other electronic equipment. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

## Battery Failure

If the **MGC System** or any device connected to the system operates from batteries it is possible for the batteries to fail. Even if the batteries have not failed, they must be fully charged, in good condition, and installed correctly.

**MGC Systems** with wireless transmitters use replaceable batteries. The system is designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

## Physical Obstructions

Motion sensors that are part of a **MGC System** must be kept clear of any obstacles which impede the sensors' ability to detect movement. Signals being communicated by a **MGC System** may not reach the receiver if an item (such as metal, water, or concrete) is placed on or near the radio path. Deliberate jamming or other inadvertent radio signal interference can also negatively affect system operation.

Moreover, **MGC Systems** may fail to operate as intended if motion, heat, or smoke sensors are not triggered. Sensors in a fire system may fail to be triggered when the fire is in a chimney, walls, roof, or on the other side of closed doors; and, smoke and heat detectors may not detect smoke or heat from fires on another level of the residence or building. In this situation the control panel may not alert occupants of a fire.

Sensors in a nurse call system may fail to be triggered when movement is occurring outside of the motion sensors' range. For example, if movement is occurring on the other side of closed doors or on another level of the residence or building the motion detector may not be triggered. In this situation the central controller may not register an alarm signal.

## Other Impairments

Similarly, Alarm Notification Appliances such as sirens, bells, horns, or strobes may not warn or waken a sleeping occupant if there is an intervening wall or door. It is less likely that the occupants will be alerted or awakened when notification appliances are located on a different level of the residence or premise.

Audible notification appliances may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners, appliances, or passing traffic. Audible notification appliances, however loud, may not be heard by a hearing-impaired person.

## Software

Most **MGC Systems** contain software. With respect to those products, MGC does not warrant that the operation of the software will be uninterrupted or error-free or that the software will meet any other standard of performance, or that the functions or performance of the software will meet the user's requirements. MGC shall not be liable for any delays, breakdowns, interruptions, loss, destruction, alteration or other problems in the use of a product arising out of, or caused by, the software.

## Telephone Lines

Telephone service can cause system failure where telephone lines are relied upon by a **MGC System**. Alarms and information coming from an **MGC System** may not be transmitted if a phone line is out of service or busy for a certain period of time. Alarms and information may not be transmitted where telephone lines have been compromised by criminal tampering, local construction, storms or earthquakes.

## Component Failure

Although every effort has been made to make this **MGC System** as reliable as possible, the system may fail to function as intended due to the failure of a component.

## Security and Insurance

Regardless of its capabilities, no **MGC System** is a substitute for property or life insurance. Nor is the system a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

Moreover, building automation systems produced by MGC are not to be used as a fire, alarm, or life safety systems.

## Warranty

### Limited Warranty

Mircom Technologies Ltd., MGC Systems Corp. and MGC System International Ltd. together with their subsidiaries and affiliates (collectively, MGC) warrants the original purchaser that for a period of three years from the date of manufacture, proprietary manufactured product shall be free of defects in materials and workmanship, under normal use. During the warranty period, MGC shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labor and materials. **Non-proprietary, third party or OEM product shall be warranted in accordance with the warranty period of the manufacturer. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer.** The original owner must promptly notify MGC in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

### International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, MGC shall not be responsible for any customs fees, taxes, or VAT that may be due.

### Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of MGC such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by MGC);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

## Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to MGC must first obtain an authorization number. MGC will not accept any shipment whatsoever for which prior authorization has not been obtained. NOTE: Unless specific pre- authorization in writing is obtained from MGC management, no credits will be issued for custom fabricated products or parts or for complete fire alarm system. MGC will at its sole option, repair or replace parts under warranty. Advance replacements for such items must be purchased.

Note: MGC's liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty.

## Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) and of all other obligations or liabilities. MGC neither assumes nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, or to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

## Out of Warranty Repairs

MGC will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to MGC must first obtain an authorization number. MGC will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which MGC determines to be repairable will be repaired and returned. A set fee which MGC has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which MGC determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

The foregoing information is accurate as of the date of publishing and is subject to change or revision without prior notice at the sole discretion of the Company.

WARNING: MGC recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

**NOTE: UNDER NO CIRCUMSTANCES SHALL MGC BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY. SUCH DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, LOSS OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE OR REPLACEMENT EQUIPMENT, FACILITIES OR SERVICES, DOWN TIME, PURCHASER'S TIME, THE CLAIMS OF THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY.**

MGC MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS GOODS DELIVERED, NOR IS THERE ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, EXCEPT FOR THE WARRANTY CONTAINED HEREIN.









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