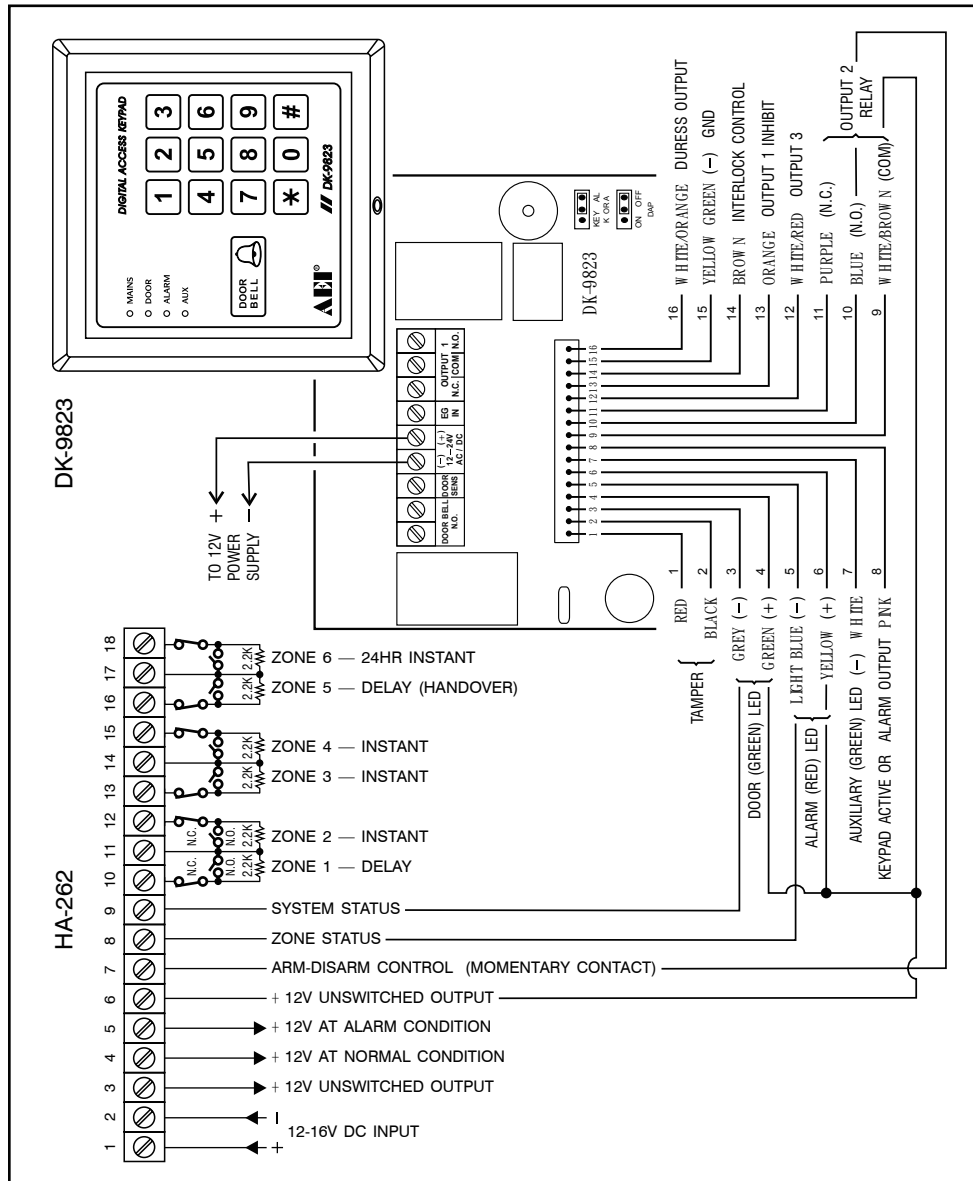


(3) REMOTE CONTROL UTILIZES OF OPTIONAL DIGITAL KEYPAD DK-9823



NOTE: a) Use Output 2 for Arm-Disarm Control and always set Output 2 in Momentary Mode of 1 second.
 b) Output1 can be used for door strike if required. Always use independent power supply for door strike.

6-ZONE ALARM CONTROL PANEL


A MINI LOCAL ALARM SYSTEM FOR HOME AND OFFICE PROTECTIONS

HA-262


OWNER'S MANUAL

Installation And Operation

Version 12/01



AEI PROTECT - ON SYSTEMS LIMITED
www.apo-hk.com



RoHS Compliance

PREFACE

Thank you for choosing the HA-262 Mini Alarm Control Panel to protect you and your property. Your system is one of the most powerful and advanced local alarm systems on the market today, designed to provide you with years of reliable service.

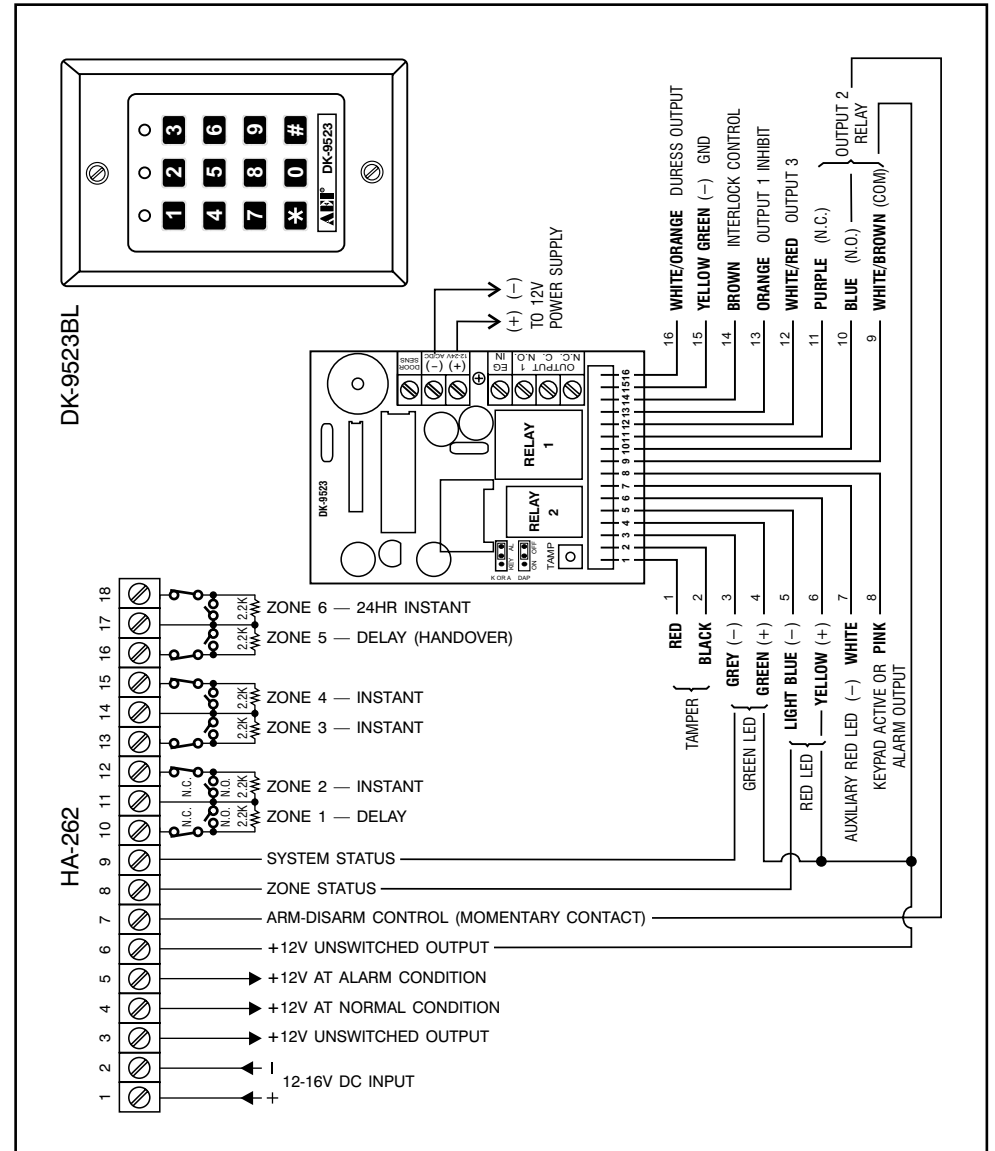
This owner's manual covers the information on both installation and operation. It describes the functions of the connection terminals, all the aspects of the feature jumper settings and the operation procedures in detail.

To get most from the system, we suggest that you take time to read through the manual to get acquainted with all the features and the operating procedures.

AEI PROTECT-ON SYSTEMS LTD.

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(2) REMOTE CONTROL UTILIZES OF OPTIONAL DIGITAL KEYPAD DK-9523BL



NOTE: a) Use Output 2 for Arm-Disarm Control and always set Output 2 in Momentary Mode of 1 second.
 b) Output1 can be used for door strike if required. Always use independent power supply for door strike.

APPENDIX

HA-262 is built-in with the connection facility for multi-station arm-disarm control. The owner can connect optional remote control stations at different locations to arm-disarm the system. The control station can be momentary type key-switch like RKS-2M or digital keypad. The digital keypads DK-9523BL and DK-9823 are highly recommended. As these keypads come with built-in LEDs for free connection and the LEDs can be used for Zone Status and System Status indications like the indications on the HA-262 main unit.

The connection is simple, just connect the optional control stations in parallel to terminal 6, 7, 8 and 9. Total 4 stations are allowed.

(1) REMOTE CONTROL UTILIZES OF OPTIONAL KEY-SWITCH RKS-2M

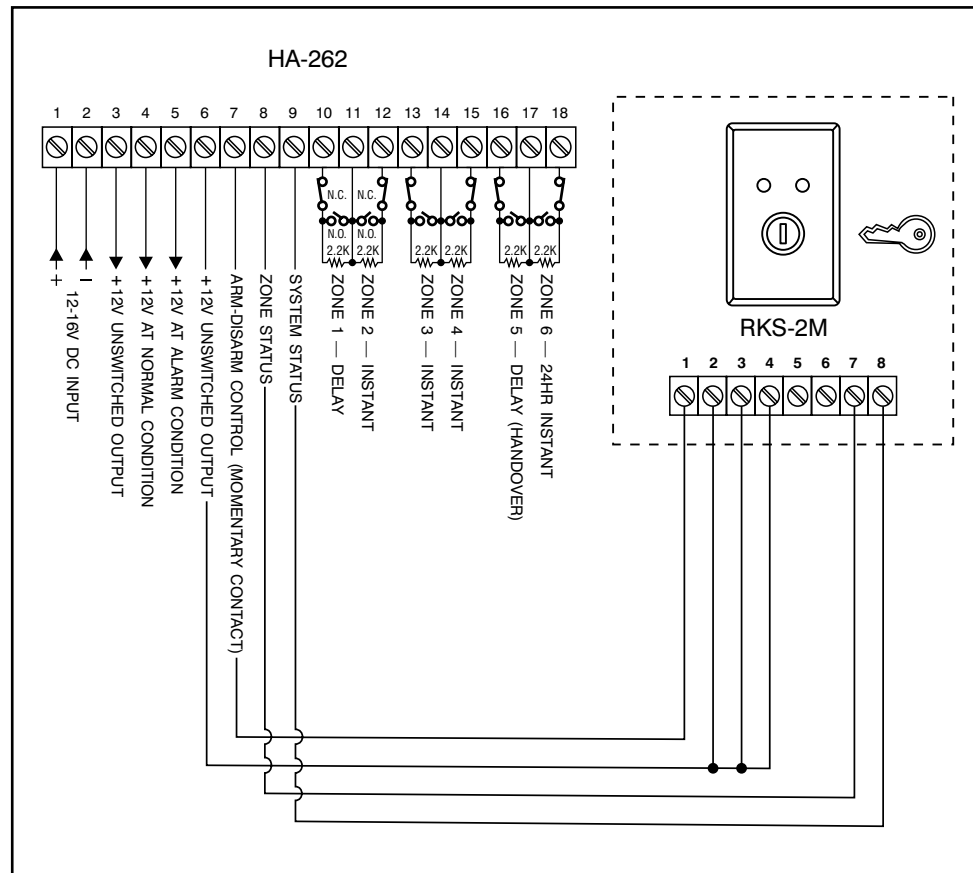


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INTRODUCTION

HA-262 is a 6-zone high performance local alarm control panel designed for home and office protections. It features simple to use and simple to set up with minimum programmings. The system is arm-disarm controlled simply with the built-in keyswitch. All its main features are set up via the jumpers on the circuit board. Absolutely no learning is required. It is an ideal system for both "Do-it-yourself" and professional users.

The 6 protection zones are designed to have different alarm modes to cater for the owner's protection requirements.

ZONE 1 --- **Delay**-----gives alarm after Entry Delay

ZONE 2 --- **Instant**-----gives alarm instantly without delay

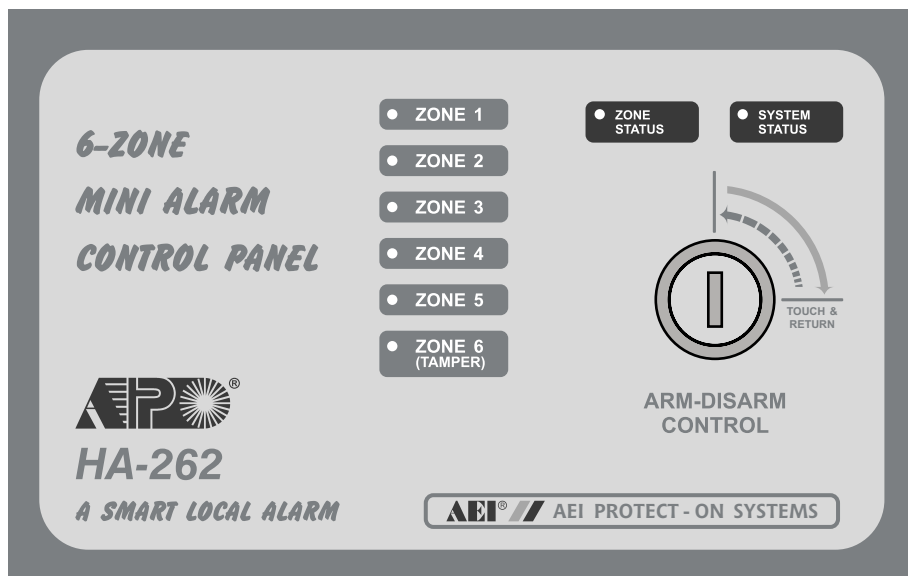
ZONE 3 --- **Instant**-----gives alarm instantly without delay

ZONE 4 --- **Instant**-----gives alarm instantly without delay

ZONE 5 --- **Delay Handover**---gives alarm after Entry Delay as well as holding all the Instant zones to follow its delay time during Entry Delay.

ZONE 6 --- **24 Hour Instant**---is always armed and prepares to give alarm instantly without delay. It is also the protection zone with the tamper switch connected.

The system also features the function of "Forced To Arm". That means in case of faulty zones(s) exists, the system automatically isolates the faulty zone(s) and arms the normal zones to keep the available protections actively.



OPEN THE CABINET FOR SERVICE

The HA-262 is protected by a built-in tamper switch 24 hours. Opening of the cabinet will trigger the tamper switch to give alarm.

If opening of the cabinet for service is required, it is necessary to set the system to standby mode by holding the keyswitch in contact for 5 seconds (ignore the 2 arming beeps). The standby mode lasts for 1 minute and the system gives no function including the tamper switch during the period. Setting the system to standby mode can only be done while the system is in disarmed mode without alarm memory existing.

GENERAL SPECIFICATIONS

- Power Source : 12-16V DC. 14VDC at Standby
- Back-up Battery Requirement : 1.2Ah, 12V Rechargeable sealed lead acid - not included
- Battery Test : Daily Auto-Test, or Manually Initiated
- Temperature Range : 0 Deg C to +65 Deg C
- Standby Current : 50mA Typical
- Protection Zones : 6 Protection zones
- Control Station : Key-switches, 4 maximum
- Entry Delay : 15-90 Seconds
- Exit Delay : 60 Seconds
- Alarm Duration : 3-15 Minutes, or ∞
- Power Up Delay (Standby Mode) : 60 Seconds
- Audible Beeps : Entry, Exit & Alarm Warning, ON-OFF programmable
- G. Weight : 1.1 Kgs
- Dimensions : 180(W) X 115(H) X 62-68(D) mm

Specifications are subject to change for modifications without notice.

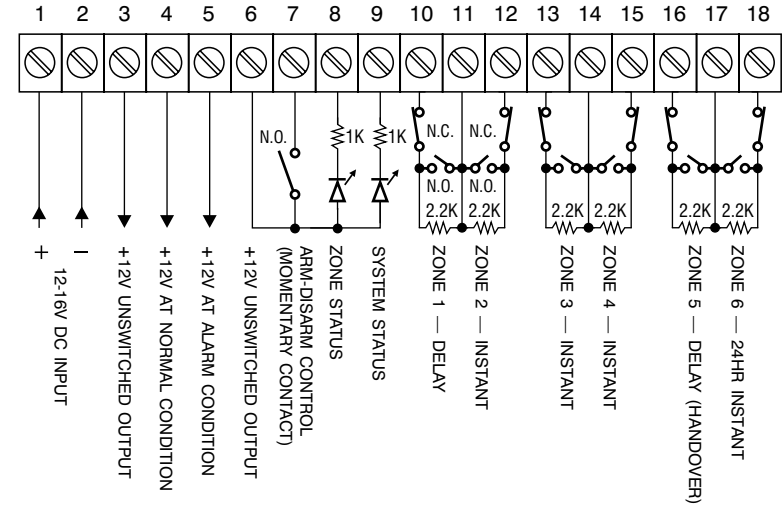
THE INDIVIDUAL ZONE LED (ZONE 1-6) (RED)

EVENTS	INDICATIONS
Zone abnormal	ON
Zone normal	OFF
Zone is or was in alarm	Fast Flashing
Zone with alarm memory. System is disarmed	3 Fast Flashes with Stopping Interval
Zone is bypassed during system is Forced to arm	Slow Flashing

THE AUDIBLE NOTIFICATIONS

EVENTS	NOTIFICATIONS
System in Exit Delay Period OR System in Entry Delay Period	<p>Exit And Entry Beeps</p> <ul style="list-style-type: none"> Short beeps at 0.5 second interval Increase to 4 beeps/second at the last 10 seconds, then One long beep to indicate the end of the delay period
System in Standby Mode Period	<ul style="list-style-type: none"> Short beeps at 0.5 second interval Increase to 4 beeps/second at the last 10 seconds, then One long beep to indicate the end of the period <p>NOTE: The beep stops at anytime when the system is manually turned to battery test.</p>
System is or was in Alarm condition (Alarm occurred)	<p>Warning beeps</p> <ul style="list-style-type: none"> 4 fast beeps at 1 second interval
Successful Key-switch operation OR Battery is Normal after Testing	2 Short beeps
AC power Failure	1 Short beep/30 seconds
Battery Low After Testing	5 Short beeps first, then 1 Short beep/30 seconds

CONNECTION TERMINALS OF HA-262



WARNING:

- THIS EQUIPMENT IS ONLY TO INSTALL BY QUALIFIED PERSONNEL
- TAKE IT TO QUALIFIED SERVICEMAN WHEN SERVICE OR REPAIR WORK IS NEEDED

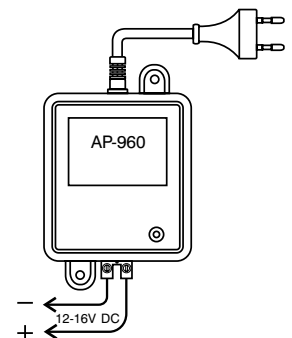
1, 2: DC Power is supplied from a 12-16V DC, 1.5Amp power adaptor. Terminal 1 is (+) and Terminal 2 is (-), the Common Grounding point of the system.

- NOTE:**
- The power adaptor to be used in this product must be complied in the EN61558 standard (Model: AP-960) for European countries.
 - The system gives 1 minute Standby Delay once it is powered-up

CONNECTION OF POWER TRANSFORMER

AP-960 power adaptor is recommended for 220-240V AC operation, which is 12VDC output at 1.5 Amp maximum rating. Power adaptor is purchased separately.

- Connect the 12VDC output voltage to terminals 1 (+) and 2 (-) on the board.
- Wiring to the power adaptor must not exceed 10 feet using 16 gauge wire. The voltage reading between terminals 1 and 2 of the control must not fall below 14VDC while the system is in standby mode. Always put the power adaptor closed to the control.
- Do not plug the power adaptor into AC outlet until all wiring connections to the control are complete. As a safety precaution, always power down the control when making such connection.
- The power adaptor can be fixed on wall with screw.
- The power mains for the power adaptor MUST be an unswitched receptacle.



- 3: This terminal provides an unswitched +12V output power referring to the common ground. It gives output power all the time no matter the system is armed or disarmed. Suitable for those devices require uninterrupted power supply. Such as smoke/fire detectors, PIR motion sensors etc. This terminal is equipped with a 750mA resettable fuse.
- 4: This terminal provides a continuous +12V output power at normal condition of no alarm occurred. Mostly suitable for the connection of Satellite Siren/Strobe Light. The +12V output is switched OFF at alarm condition. The output is equipped with a 1.5A resettable fuse.
REMARK: A Satellite Siren-Strobe Light unit is a self-contained device with built-in backup battery which is charged by the hold-off voltage from the control panel at normal condition. At which, the siren and strobe light are OFF. On alarm condition, the hold-off voltage from the control panel is cut. The siren and strobe light at the unit start to work. They are supplied by the backup battery. The siren will stop when the pre-set time expires, and that the strobe light will work until the hold-off voltage resumes.
 A Satellite Siren-Strobe Light is self-protected and tamper-proof. It gives alarm instantly if the connection wire between the unit and the alarm control panel is cut.
- 5: This terminal provides +12V output power at alarm condition with the time period according to the setting of the alarm timer. It is suitable for energizing electronic siren or alarm bell. The output is equipped with a 1.5A resettable fuse.
- 6: This is an unswitched +12V output point common to terminal 3. It is equipped with a 750mA resettable fuse.
- 7: This terminal is prepared for connection of the optional keyswitches (RKS-2M) for arm-disarm control. It accepts Normally Open (N.O.) momentary type switches and is +12V triggered. More than one switches can be connected in parallel.

NOTE: a) Hold the keyswitch in contact for more than 1/2 second to arm or disarm control of the system. Two beeps will be generated while the control is accepted.
 b) If continuously hold the keyswitch in contact for more than 5 seconds and ignore the 2 arming beeps will set system in Standby Mode.

UTILIZE THE KEY SWITCH FOR SYSTEM ARM-DISARM CONTROLS

ARM THE SYSTEM		
KEY SWITCH CONTACT	STATUS	RESULTS
One Touch (>1/2 second)	<ul style="list-style-type: none"> ● Make arming 	<ul style="list-style-type: none"> ● Exit delay starts ● Exit beep sounds if it is enabled ● System will be armed after exit delay expired
DISARM THE SYSTEM		
1st Touch (>1/2 second)	<ul style="list-style-type: none"> ● Make disarming 	<ul style="list-style-type: none"> ● The system is disarmed and reset if there was no alarm occurred. It is ready for re-arming ● The system is disarmed but with alarm memory if there was alarm occurred, 2nd touch is required

DISARM THE SYSTEM IN ALARM OR AFTER ALARM

- Turn the key-switch to make contact until two beeps are heard to disarm the system and silence the siren instantly.
- The zone status LED gives 3 short flashes/second as alarm memory to show that alarm was occurred.
- Turn the key-switch to make contact once again to clear the alarm memory.
- The zone status LED is OFF and 2 short beeps are heard. The system is disarmed and ready for next arming operation.

SUMMARY OF THE VISUAL AND AUDIBLE NOTIFICATIONS

THE ZONE STATUS LED (AMBER)

EVENTS	INDICATIONS
System disarmed	OFF
Zone abnormal during Exit Delay Period, check the circuit loop immediately	ON
All zones normal during Exit Delay Period	Flash
System armed after Exit Delay expired	2 Short Flashes/Second
System is or was in alarm (alarm occurred)	Fast Flashes
System in alarm memory	3 Short Flashes/Second
System is forced to arm and the abnormal zone(s) is bypassed by the system	ON
System in power-up delay or in Standby mode	Flashes Alternatively with System Status LED

THE SYSTEM STATUS LED (SHOWING THE SYSTEM STATUS ALL THE TIME) (GREEN)

EVENTS	INDICATIONS
AC power and battery power normal	ON
AC power failure	2 Flashes with one second pause
Battery Low	3 Flashes with one second pause
Battery under testing	Flash
System in Standby mode	Flashes Alternatively with Zone Status LEDs

SYSTEM STANDBY

The system standby period begins right after power-up or set it manually by holding the keyswitch in contact for more than 5 seconds during the system in disarmed mode. It lasts for 1 minute. During the standby period, the system keeps all its functions in sleeping including the TAMPER switch. The box can be opened for service without triggering the alarm.

- Zone Status LED and System Status LED flash alternatively until the end of the period
- System generates warning beeps until the end of the period
- The system is in disarmed condition after the standby period

NOTE: Do not try to turn the keyswitch during the system is in standby mode. Unless you want to turn the system to battery testing mode.

In case of the keyswitch is accidentally turned. It is necessary to wait until the battery testing cycle runs to the end. After that the system will stay in disarmed mode and prepares for normal operation.

ARM THE SYSTEM

- Make sure that the alarm system is in disarmed state and has no alarm memory existing in the protection zone.
- Turn the key-switch in contact for more than 1/2 second until the system generates two beeps to confirm that exit delay has began. Release key-switch instantly after the beeps. The zone status LED starts to flash. The exit delay is 1 minute fixed. The zone LEDs are OFF if all the zones are normal.
- If there is faulty zone existing, both the zone status LED and the individual zone LED (zone 1-6) are turned ON. Please check the wiring of the sensors and the position of the door/window immediately.
- The system is armed after exit delay expired and the zone status LED gives 2 short flashes/second continuously if all zones are normal while the system is armed.

Forced To Arm

In case of there is faulty zone existing and it is not repaired before the system is armed. The system will bypass it automatically and force the normal zones to arm to provide the protections available. The LED for the faulty zone will flash to warn the owner that it is not protected.

The following visible indication shows the system is Forced to Arm with faulty zone.

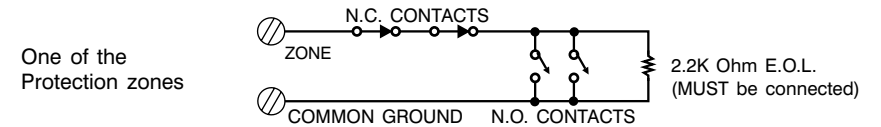
- The Zone Status LED and the faulty zone LED are ON during Exit Delay.
- The Zone Status LED is ON and the faulty zone LED flashes after the system is armed.

DISARM THE SYSTEM

- In the condition of there is no alarm occurred when you come back from outside.
- Turn the key-switch to make contact until 2 beeps are heard to disarm the system within the entry delay period. The zone status LED is OFF. The system is disarmed and ready for next arming operation.

DISARM THE SYSTEM (continue)		
2nd Touch (>1/2 second)	<ul style="list-style-type: none"> • Alarm memory is cleared & the system keeps in 	<ul style="list-style-type: none"> • The alarm memory LEDs are off (both the STATUS LED and the zone LEDs) • The system is ready for re-arming

- 8: This terminal is prepared for connection of the optional LED indicators to show the zone status or the battery status.
- 9: This terminal is prepared for connection of the optional LED indicators for system status.
- 10,11,;These terminals are protection zones 1 to 6 and their common grounding terminals. The 12,13, zones are E.O.L. (End of Line) monitored by a 2.2K Ohm resistor.
- 14,15, All normally closed (N.C.) contacts are to be wired in series with the E.O.L. resistor, where 16,17, all normally open (N.O.) contacts are to be wired in parallel with the E.O.L. resistor. The 18 function of the zones are programmable via the programming jumpers. The response time of the zones is 500mS.



A protection zone with E.O.L. resistor, either an open or a short will be reported as an alarm if the zone is in armed state.

- | | |
|------------------------|---|
| 10: Zone 1 --- Delay | 15: Zone 4 --- Instant |
| 12: Zone 2 --- Instant | 16: Zone 5 --- Delay (Handover) |
| 13: Zone 3 --- Instant | 18: Zone 6 --- 24 Hour Instant (Tamper) |
- 11, 14, 17 --- Common ground (-)

NOTE:

- A 2.2K Ohm End-of-line resistor MUST be connected in series with each protection zone. Otherwise, the protection zone does not work.
- A Delay zone gives alarm after Entry Delay expired.
- An Instant zone gives alarm instantly without delay.
- Zone 5 is a Delay zone with handover function. it is ideally for protecting the common area, such as the lobby or the main door. The handover function works like that if zone 5 is triggered first, all the instant zones (except the 24 hour instant zone 6) will follow zone 5 to give entry delay during the Entry Delay period. The instant zones resume normal to give instant alarm after the Entry Delay expired. With the handover function, the owner can set the motion sensors for interior protection with the instant zones and the main door or the lobby with the Delay Handover zone 5. The system will always give instant alarm if a person (might be an intruder) does not get in the house through the lobby or main door zone but break in the interior protection area from window.
- Zone 6 is a 24 hour protection zone that works 24 hours a day and cannot be turned OFF with keyswitch except in the Standby period. The built-in Tamper switch is connected to it internally.

THE TAMPER SWITCH

The tamper switch is pre-wired to zone 6 internally. Zone 6 is a 24 Hour Instant zone. The tamper switch is Normal Closed (N.C.) when the circuit module is secured in the box; and it is open circuit and triggers the alarm when the module is removed from the box.

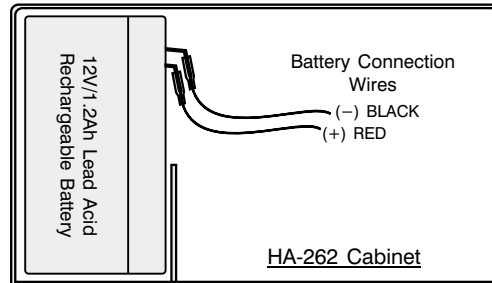
THE BACK-UP BATTERY

The back-up battery is not supplied. It is required to purchase separately.

- The back-up battery should be 12V, 1.2Ah sealed lead-acid type
- Replace battery every 3-5 years
- The back-up time is 12 hours approximate at 100mA

BATTERY CONNECTION

The (+) RED wire connects to the positive terminal and the (-) BLACK wire connects to the negative terminal of the battery. The battery should be a 12V sealed lead acid rechargeable type with a capacity of 1.2Ah. The battery is protected by a 2.5A resettable fuse, and it is charged by a current limiting voltage source in the system.



- * Put the battery in the position shown in the battery compartment

PERIODIC BATTERY TEST

The system tests the back-up battery automatically once every 24 hours. The test takes around 5 seconds to 2 minutes depending on the condition of the battery. Visual and audible warnings will be given continuously if the battery is abnormal after testing.

MANUALLY INITIATED BATTERY TEST

Battery test can be initiated manually by momentary turning the key-switch to make contact once at anytime during the system is in Standby mode.

The system can be set to "Standby" mode for 1 minute by one of the following ways:

- Hold the Arm-Disarm key-switch in making contact for more than 5 seconds during disarmed mode. Ignore the 2 arming beeps and hold the key switch until the Standby Mode happens. **OR**
- Switch off both AC and battery power, then power-up again.

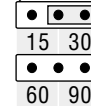
- REMARKS:**
- The manually initiated battery test through the key-switch is considered as a beginning of a new periodic battery test. The system will count the time of 24 hours for the next test from it.
 - Battery test will not take place on alarm occur or AC power failure.
 - Battery test will stop instantly if alarm occurs or AC power fails during the test.
 - The system generates 2 beeps for normal battery, or 5 beeps and than 1 beep/30 seconds continuously for abnormal battery after battery test.

THE FEATURE JUMPER SETTINGS

The system allows the owner to set the desired functions directly with jumpers. The overall programming is exceptionally easy and no learning is required. There are 6 jumpers on the circuit board for feature settings.

NOTE: No setting for the **EXIT DELAY** time is required. It is fixed at 60 seconds.

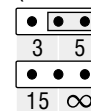
ENTRY DELAY (SECONDS)



1) ENTRY DELAY

Entry Delay is the time setting for the delay zones 1 and 5 for the people to enter the protected area before activating the alarm outputs. There are 4 entry delay times available for selection. They are 15, 30, 60 or 90 seconds.

ALARM DURATION (MINUTES)



2) ALARM DURATION

This is the time setting for the "+12V O/P AT ALARM (CONDITION)" relay output. The alarm output is auto-reset after time out. 4 positions are available for the time settings. They are 3, 5, 15 minutes or no time out for the output relay.

REMARK:

Some cities have noise pollution control and do not allow alarm output with no time out. Do not set alarm duration with no time out unless the alarm output is not for driving siren or bell.

AUDIBLE BEEPS



3) AUDIBLE BEEPS

There are 3 jumpers for ON-OFF selection of Entry Beep, Exit Beep and Warning Beep independently.

- Entry Beep** --- Beeps during the entry delay period.
- Exit Beep** --- Beeps during the exit delay period.
- Warning Beep** --- The system gives warning beeps in both alarm period and after alarm period. The after alarm warning gets the owner to pay attention on his alarm that was triggered and the thief might still be inside the house when he comes back.

MISC. FUNCTIONS



4) RING-BACK

Ring-back signals are the loud acknowledgement signal coming out from the siren to inform the owner of the arming and disarming status of the system.

- Ring-back ON** --- The system energizes the Output Relay twice to make the siren to generate two short beeps when the system is armed; and energizes the Output Relay once to generate one short beep when the system is disarmed.
- Ring-back OFF** --- The Output Relay does not activate when the system is armed or disarmed, no beep is generated for arm-disarm acknowledgement from siren.