

AI7525 Series Alarm Annunciator  
User Manual  
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## Introduction

The AI7525I Series Alarm Annunciator system is an unparallel, modular product, designed to give indication of an alarm condition, or equipment status, where a high degree of reliability and flexibility is required.

The annunciator is made up of cells, each cell being 75 x 50mm and comprising one large window, two medium (Vertically or horizontally) or four small. These alarm windows are driven from Two-channel Alarm Cards. The annunciator is constructed by assembling multiple "cells" together to provide a unit of the shape and size required. The finished cell array is housed within an attractive extruded aluminum surround which gives a modern flush mounting appearance and allows the annunciator to be mounted in a single cut-out.

The AI7525I Series Alarm Annunciator is fully programmable for a whole range of different sequences and functions as listed in the ISA Publication "Annunciator Sequences and Specifications S18.1 - 1979". The programming is undertaken by dipswitches and jumpers on each card. All Alarm Cards are generally interchangeable within the annunciator, so stocking requirements are minimized. As the system is fully field-programmable, the operating specification of both alarm sequence and function can be changed during commissioning or at a later date after the equipment is installed.

Reliability of operation is increased over conventional annunciators by using state of the art technology on Alarm Cards. Each Card is fitted with a complete logic controller, which is capable of complete system control.

Accessibility for normal maintenance, legend/filter changes and programming is excellent, being provided without the use of special tools.

The standard unit is supplied fully equipped with a range of output relays as standard. This product will suit most applications.

## Technical Specification



### INPUTS

#### Isolation and Polarity:

- Each input is optically isolated up to 2000VAC
- All inputs are bipolar and can accept AC or DC voltages

#### Alarm Inputs:

- Wet (voltage supplied) or dry (voltage free) contacts. Field Selectable for each channel individually
- Normally Open (NO) or Normally Closed (NC). Field Selectable for each Alarm Controller (for example for H21 window type, two channels have the same setting)
- Dry Contact and 24V (DC or AC) are standard inputs and other voltages are optional as bellow
- Other input Voltages; 48,125, and 250V (DC or AC)

#### Response Time:

- Standard unit: 50ms milliseconds
- Made to order from 1ms to 2s

### OUTPUTS

#### Supported outputs:

- Light Output
- Critical Audible Relay
- Non-critical Audible Relay
- Critical/Non-critical Buzzer
- Group Relay
- Common Relay
- Auxiliary (Repeat) Relay (can be set to follow Input or Output)
- Common Alarm Relay
- First\_Up Relay

### DISPLAY

#### Configuration:

- One single large window: (H11 type): 75x50mm (WxH)
- Two medium cells: (H21 type): 75x25mm (WxH) (H12 type): 37.5x50mm (WxH) (V21 type): 50x37.5mm (WxH)
- Four small cells: (H44 type): 37.5x25mm (WxH)

Each window is backlit by almost unlimited life time, 120° high bright LEDs, ideal for a maintenance free annunciaor

#### Number of LED(s) per Alarm Point:

H11: 4 LEDs  
H21, H12, V21: 2 LEDs  
H44: 1 LED

#### LED Colours:

- White
- Red
- Amber
- Green

### ALARM SEQUENCES

System supports all ISA-S18.1/1979 (R1985) sequences including:

- Manual Reset (M)
- Automatic Reset (A)
- Automatic Reset First Out (F3A)
- Automatic Reset First Out (F1A)
- Manual Reset First Out (F2M-1)
- Ringback (R)
- No Lock In

These sequences are Field Selectable for each Alarm Controller (for example for H21 window type, two channels have the same sequence)

### PUSH BUTTONS

"Acknowledge", "Reset", "Test" and "Mute" push buttons are supported by the system with two choices; Remote and/or Integral push buttons

### GENERAL

#### Supply Voltage:

24VDC Nominal (20-30VDC)

#### Supply Current Per Alarm Point:

Quiescent: 4mA (at 24VDC)

LEDs: H11: 80mA (at 24VDC)  
H21, H12, V21: 40mA (at 24VDC)  
H44: 20mA (at 24VDC)

Relay: 10mA per relay (at 24VDC)

Additional 50mA current is required for Interface Module, Push button/Buzzer Module, Common Relay and Audible

#### Environment:

Operating temperature : -20 to 60°C  
Storage temperature -20 to 80°C  
Humidity 0-95% RH, non condensing

#### Protection:

Front Panel: IP41  
Enclosure: IP20

#### Weight:

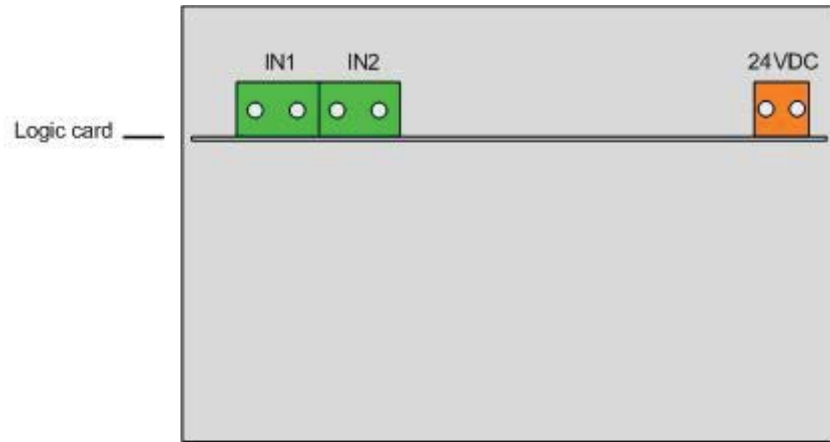
Approximately 0.3 kg per H11 window

#### Connection Terminals:

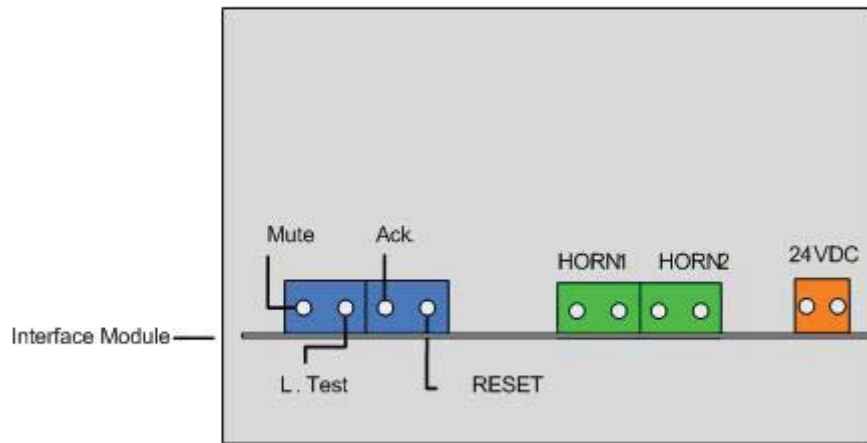
- Two-part removable screw type
- Maximum wire size: 2.5 mm<sup>2</sup>

#### Mounting:

Panel Mounted

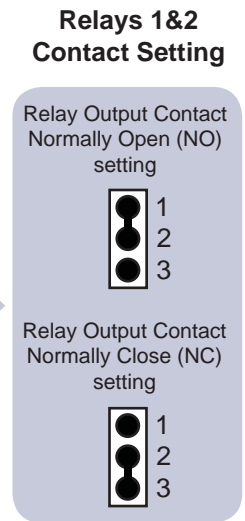
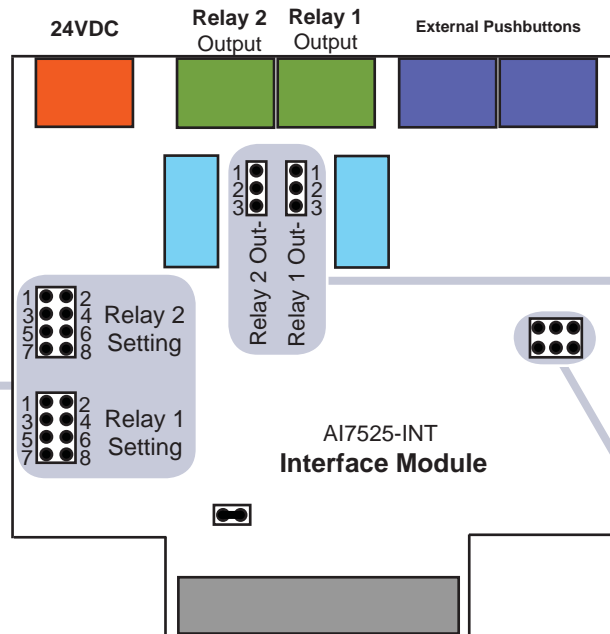
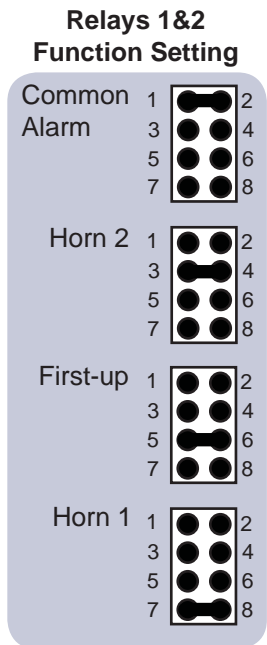
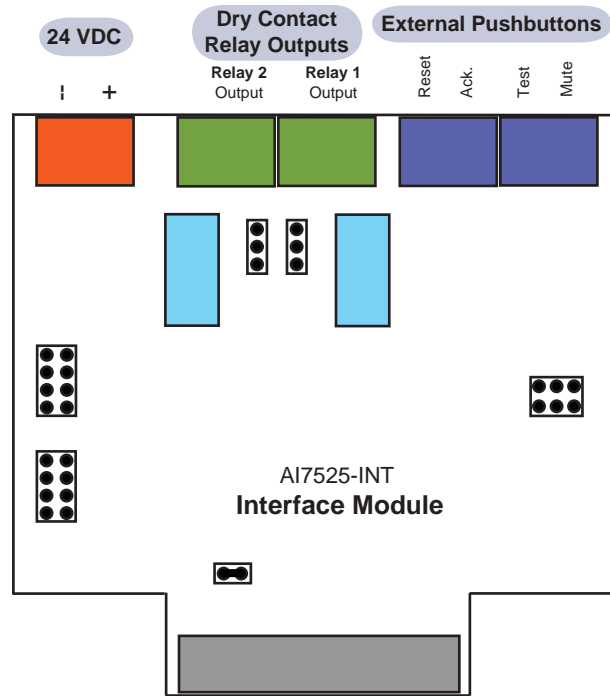


AI7525-LG Logic Card



AI7525-INT Interface Module

Interface Module

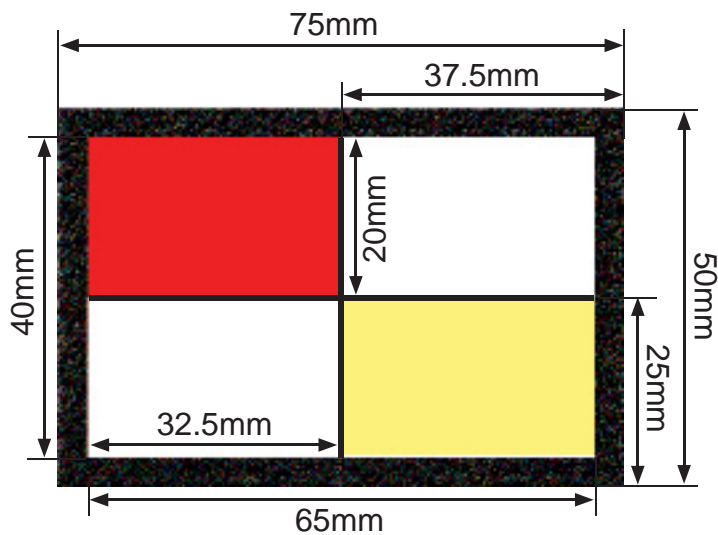


For factory use only

## Window/Cell Configuration

The AI7525 is modular and cell based designed. With the availability of multiple 75x50mm Windows and Cells sizes, customers will have access to a permutation of varying choices to build a system with desirable unit size. Available configurations are:

- One single large window (H11 type): 75x50mm (WxH)
- Two medium cells: (H21 type): 75x25mm (WxH)  
(H12 type): 37.5x50mm (WxH)  
(V21 type): 50x37.5mm (WxH)
- Four small cells: (H44 type): 37.5x25mm (WxH)



Calculation of overall and cutout sizes is very easy by using the following formulas:

Overall Size Calculation of H11, H21, H12 and H44:

$$\text{Width (mm)} = C \times 75 + 37 \pm 0.5$$

$$\text{Height (mm)} = R \times 50 + 37 \pm 0.5$$

Cutout Size Calculation of H11, H21, H12 and H44:

$$\text{Width (mm)} = C \times 75 + 33 \pm 0.5$$

$$\text{Height (mm)} = R \times 50 + 33 \pm 0.5$$

Overall Size Calculation of V21:

$$\text{Width (mm)} = C \times 50 + 37 \pm 0.5$$

$$\text{Height (mm)} = R \times 75 + 37 \pm 0.5$$

Cutout Size Calculation of V21:

$$\text{Width (mm)} = C \times 50 + 33 \pm 0.5$$

$$\text{Height (mm)} = R \times 75 + 33 \pm 0.5$$

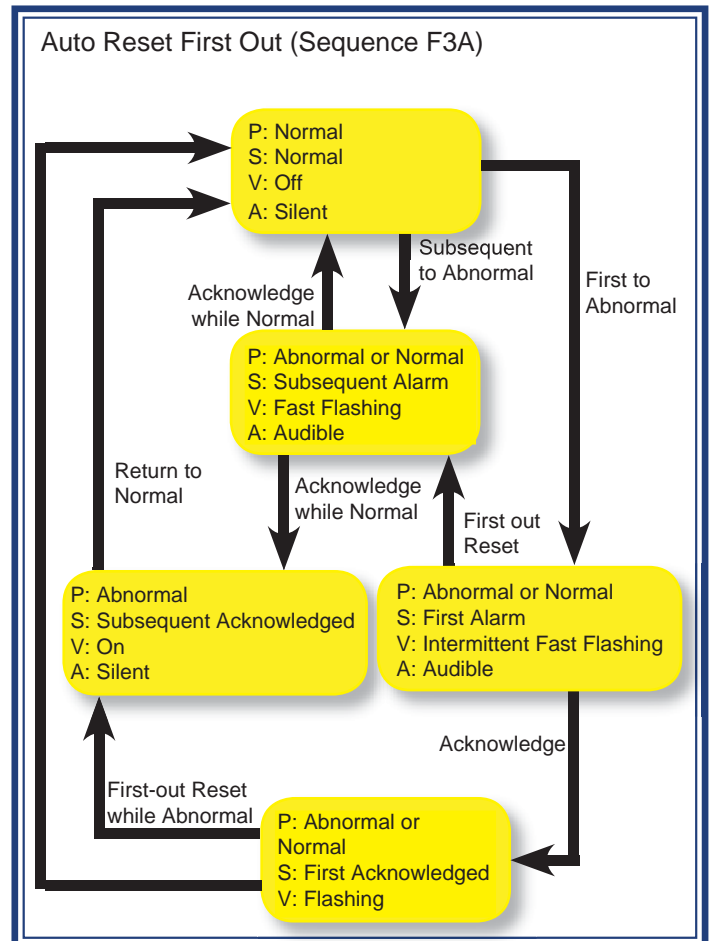
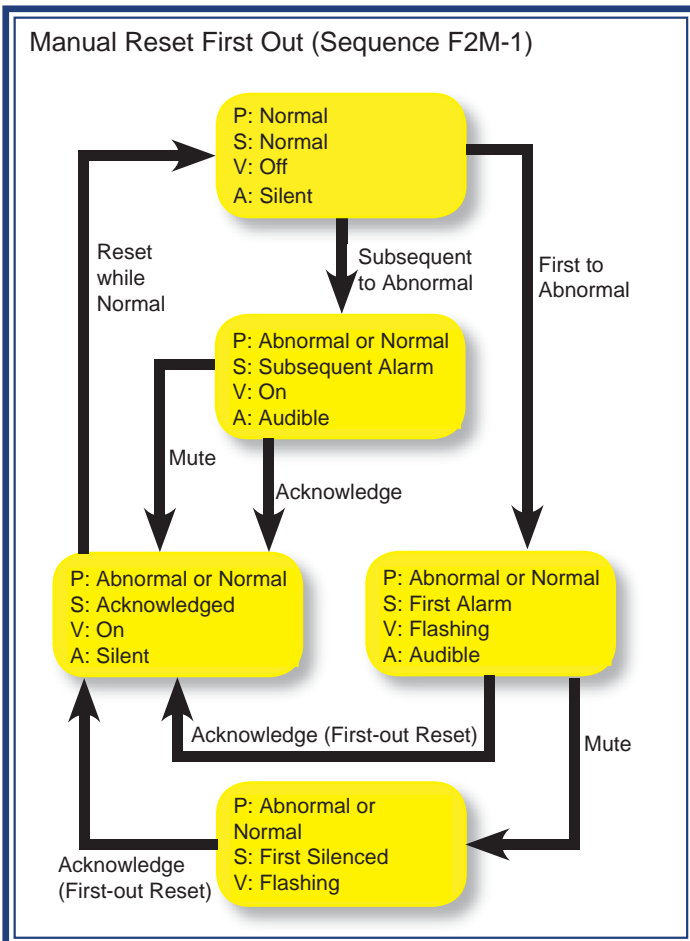
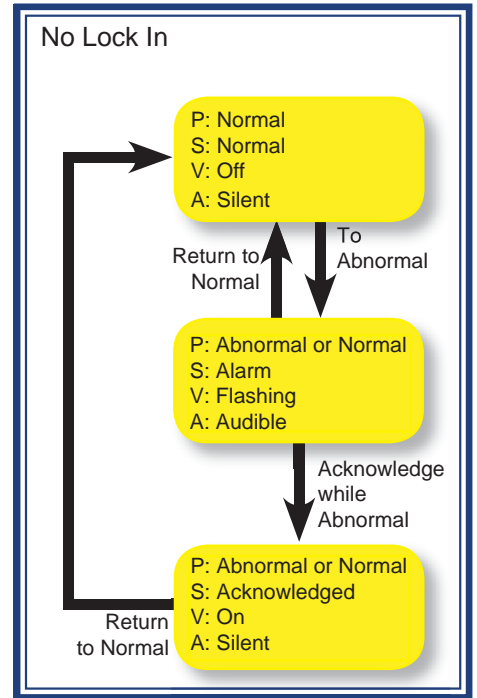
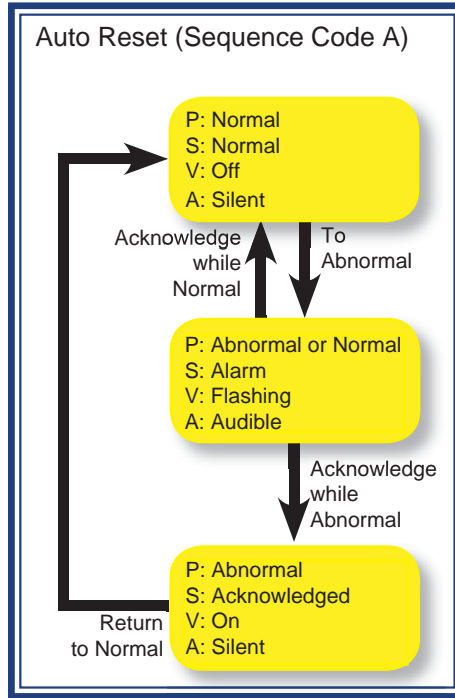
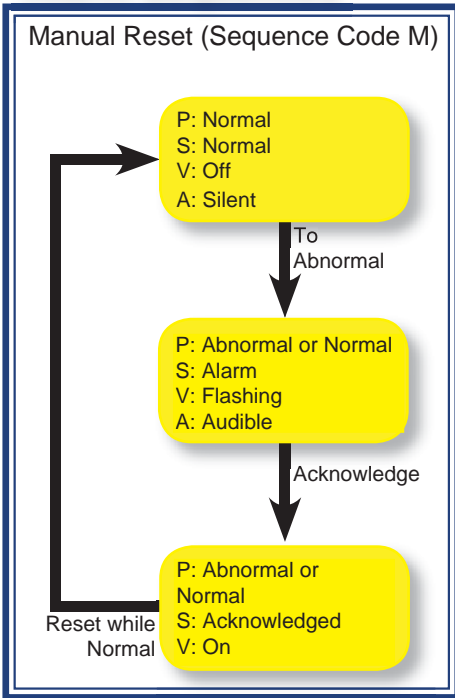
**C:** Number of 75x50mm Windows in one row

**R:** Number of 75x50mm Windows in one column

Visit the bellow link for Lens Replacement demonstration

<http://www.youtube.com/watch?v=Hfd0D7UofgM>

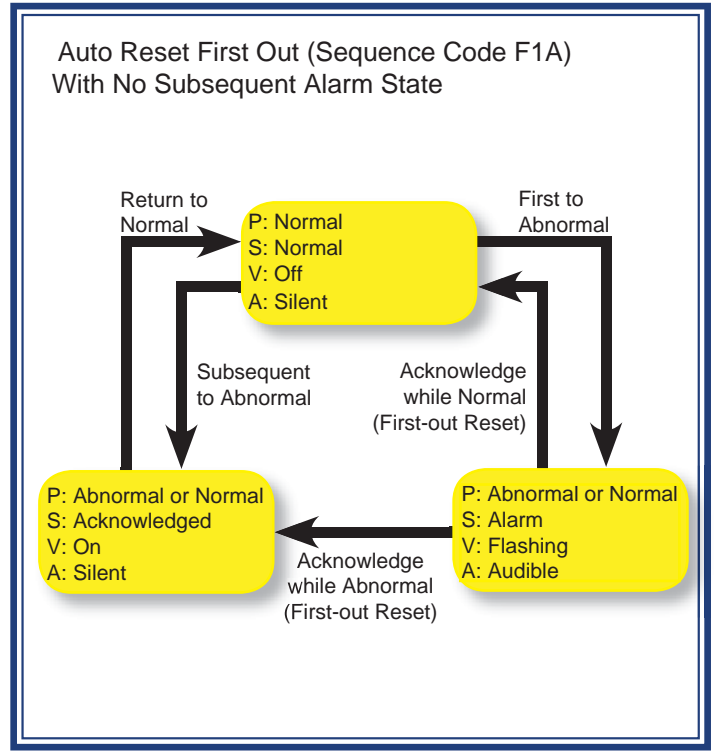
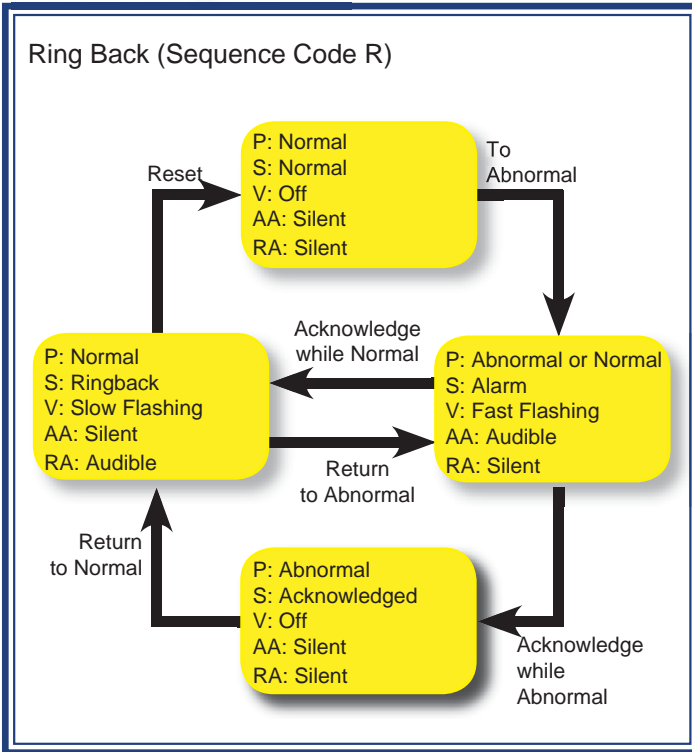
## Alarm Sequences



**Legends:**

P: Process    S: Sequence    V: Visual    A: Audible    AA: Alarm Audible    RA: Ringback Audible

**Alarm Sequences**



**Legends:**

P: Process    S: Sequence    V: Visual    A: Audible    AA: Alarm Audible    RA: Ringback Audible

Visit the bellow links for Manual Reset & Auto Reset demonstration.

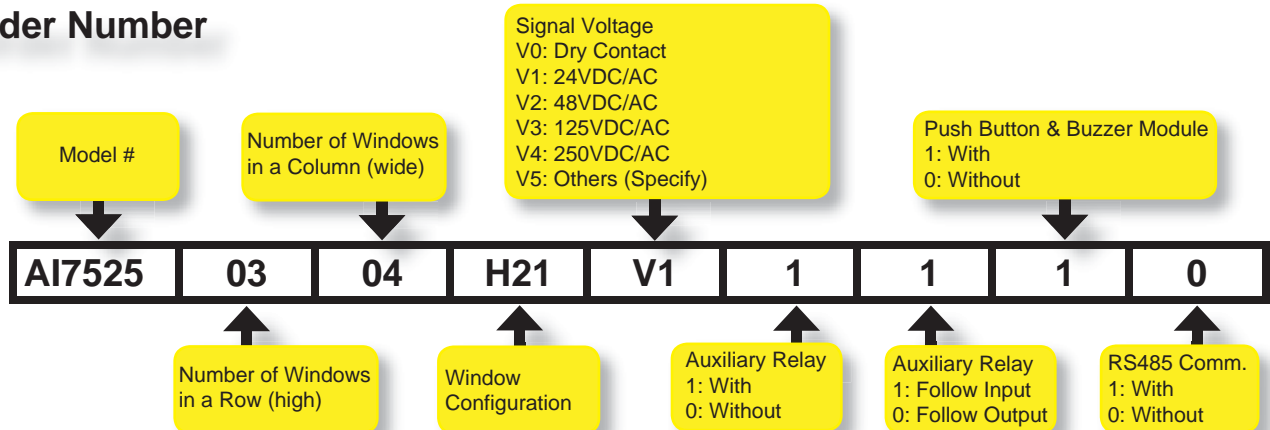
- <http://www.youtube.com/watch?v=XgYib4a5PoE>
- <http://www.youtube.com/watch?v=j7n6RerSviQ>

**Integral Push Button & Buzzer Module (option)**

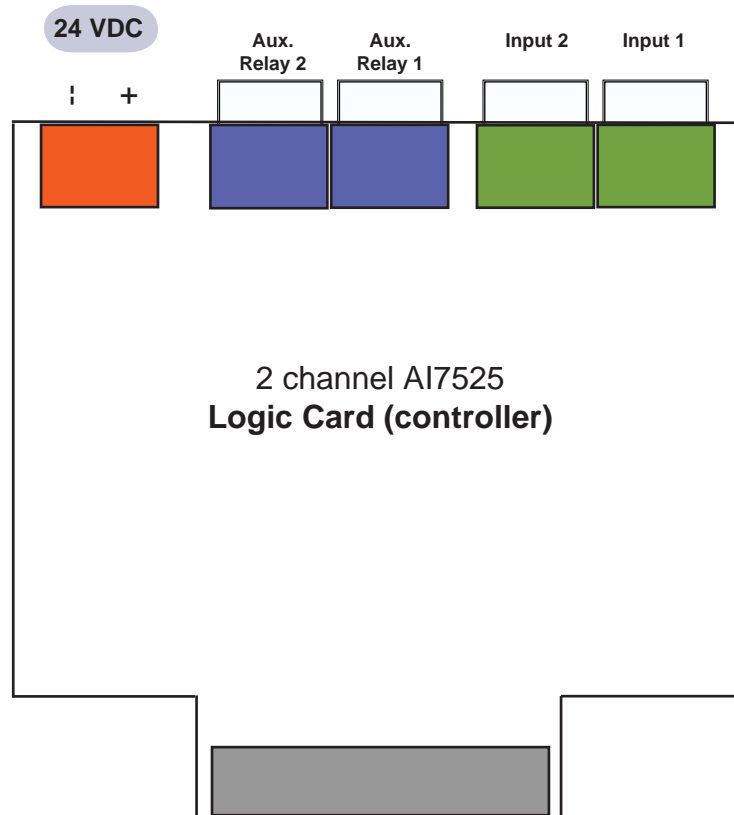
Standard AI7525 Series Annunciators supports four remote Push Buttons (Acknowledge, Reset, Test, Mute) and two Horns. As an option, an integral "Push Button & Buzzer Module" can be fitted in the bottom right window.



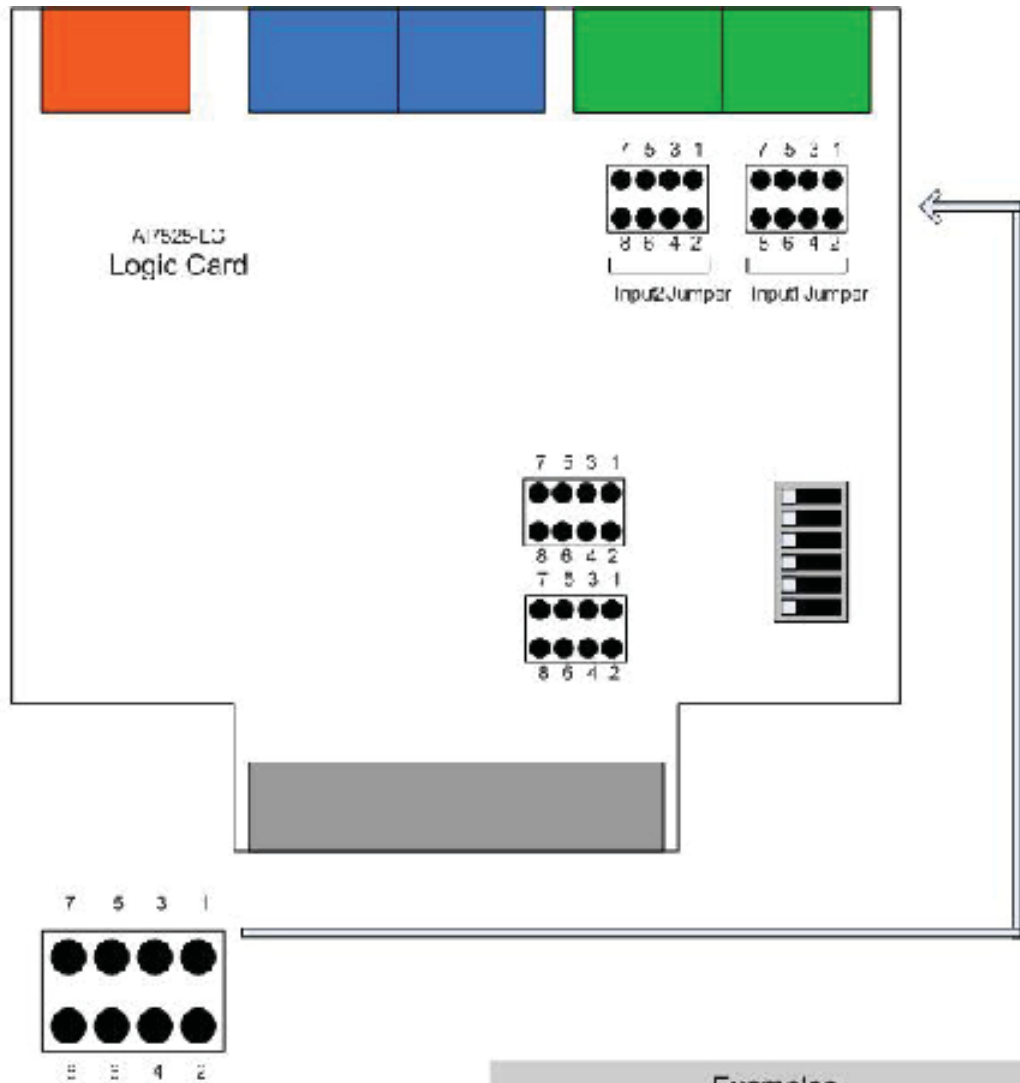
**Order Number**



Logic Card



Logic Card

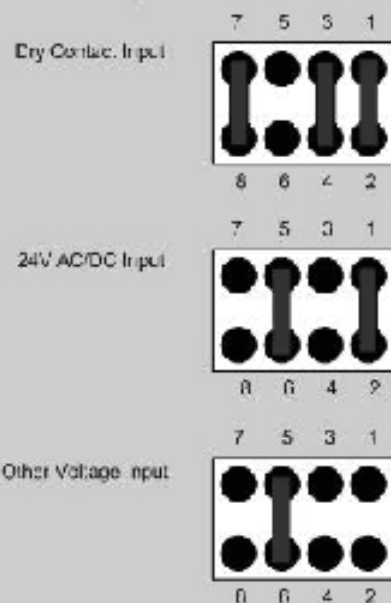


**Input Jumpers Setup Table**

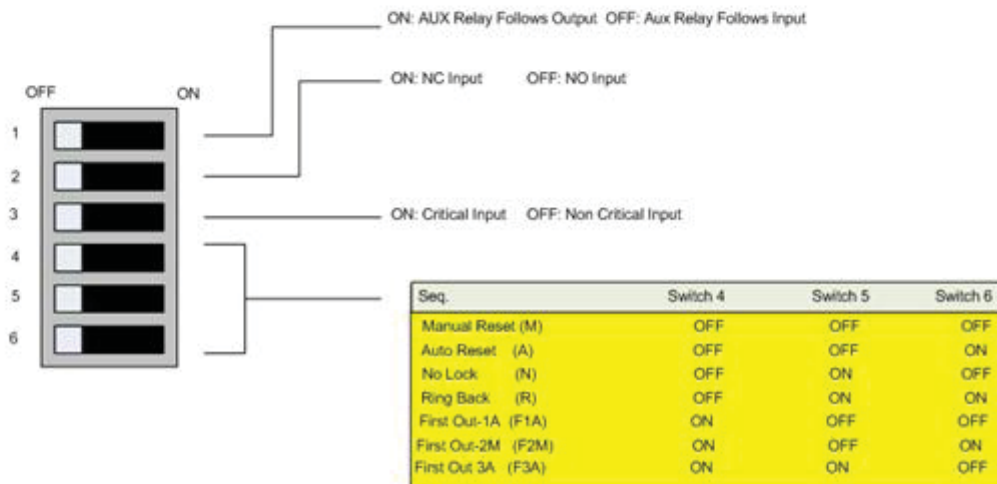
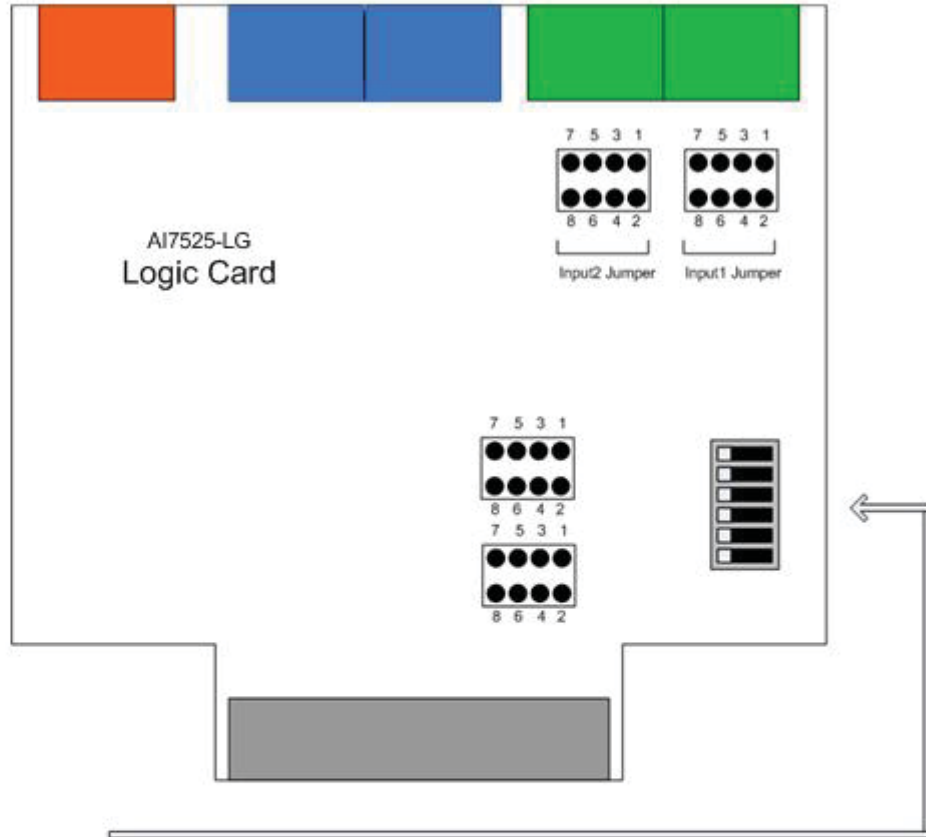
PIN	Close	Open
1,2	24V Input	Other Voltage Input
3,4	Dry Contact	Wet Contact
5,6	Wet Contact	Dry Contact
7,8	Dry Contact	Wet Contact

- 24V AC/DC and Dry Contact inputs are supported by standard system.
- Other voltage inputs, based on the order specification.
- Annunciator Supplies 24VDC for dry contact applications internally.

**Examples**



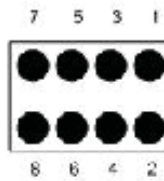
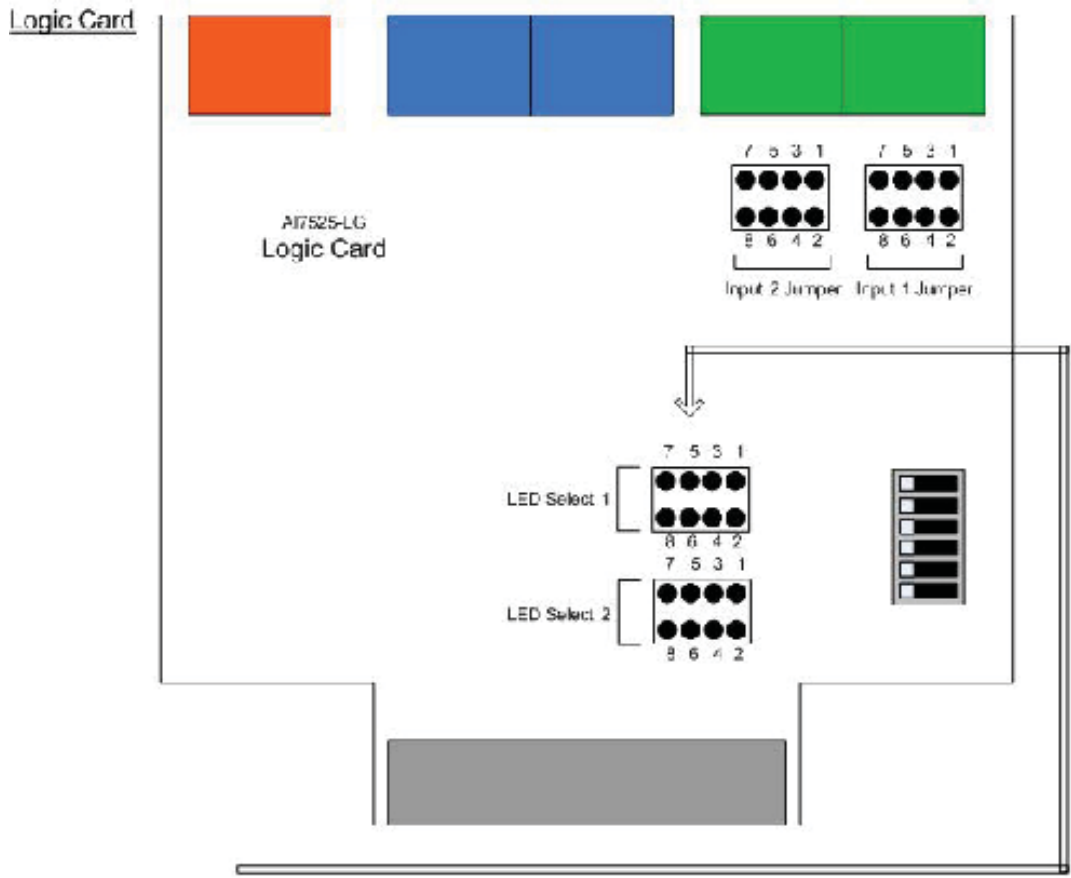
Logic Card



Visit the bellow links for Manual Reset & Auto Reset demonstration.

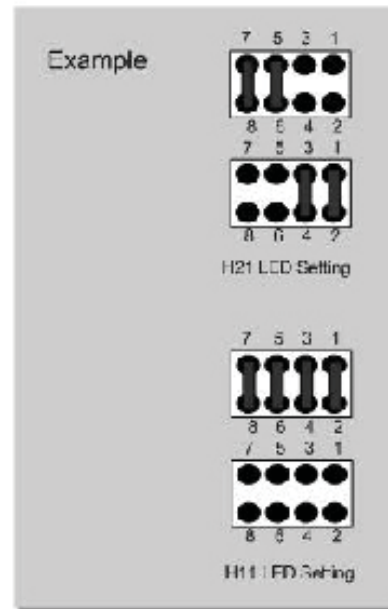
<http://www.youtube.com/watch?v=XgYib4a5PoE>

<http://www.youtube.com/watch?v=j7n6RerSviQ>



**Output Select Jumper Setting**

PIN	Close	Open
1,2	Output to LED1	No Output to LED 1
3,4	Output to LED2	No Output to LED 2
5,6	Output to LED3	No Output to LED 3
7,8	Output to LED4	No Output to LED 4



## Window Lens Replacement

Both Engraving and translucent film can be used for alarm labeling (alarm legends).

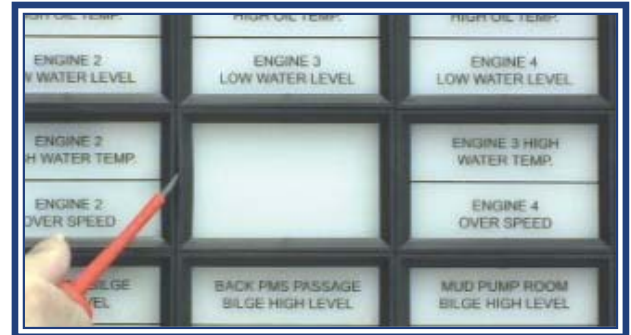
Lens (or film) replacement doesn't need any special tools.

Each window has surrounded with a plastic bezel. There is a small slot at the bottom of each window (behind plastic bezel) which allows a flat terminal screwdriver to be used to gently lever the lens forward.

To replace a window lens follow the following simple steps.



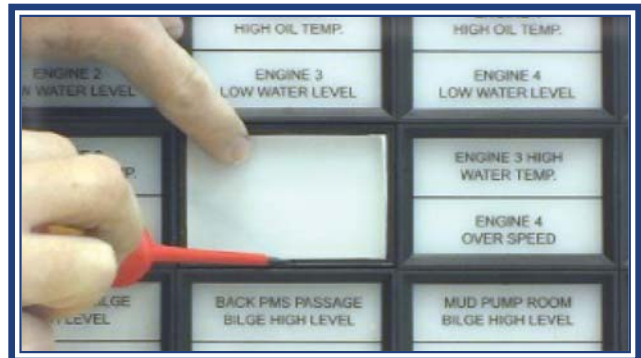
2- Remove the plastic bezel



1- Insert the screwdriver inside the slot between the windows and pop it up gently



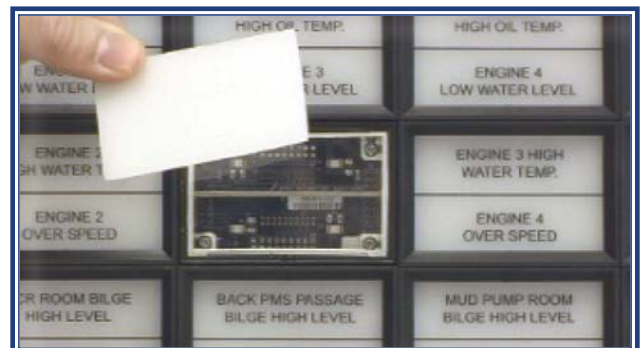
4- Insert the screwdriver inside the slot and lever the lens



3- There is a small slot at the bottom of window

Visit bellow link for Lens Replacement demonstration.

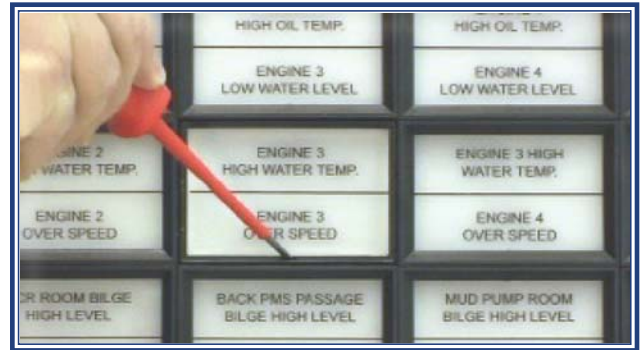
<http://www.youtube.com/watch?v=Hfd0D7UofgM>



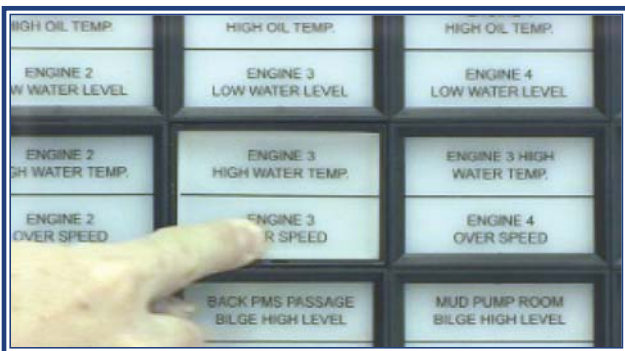
(13) 5- Remove the lens



6- Place the new lens inside the frame



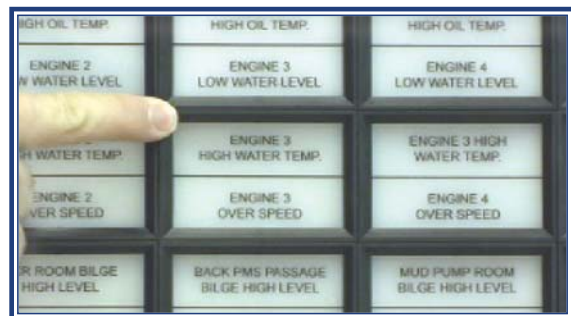
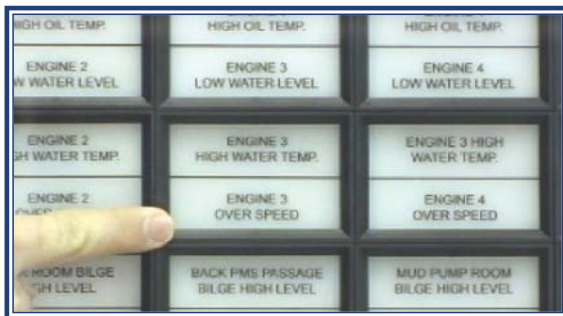
7- Put the screwdriver inside the slot and push the lens in



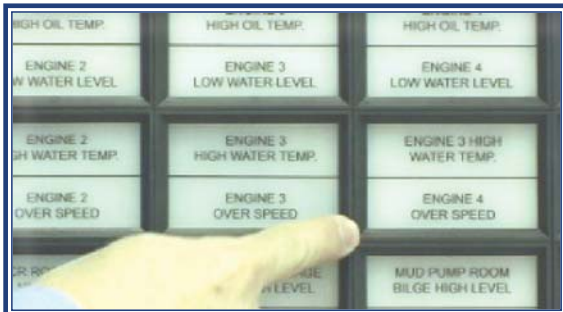
8- Secure the lens



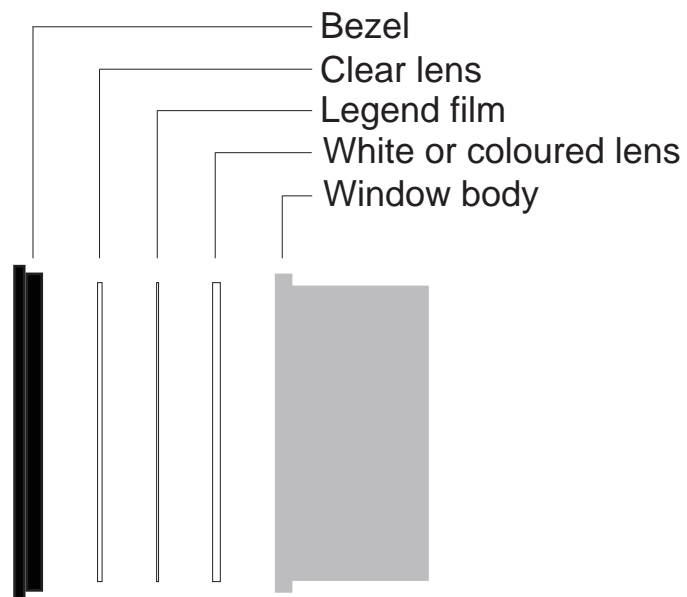
9- Put the plastic bezel back in place



10- Push the corners of plastic bezel



There are two options for alarm labeling, engraving and translucent film. Bellow diagram shows the arrangement of clear lens, coloured lens and translucent film.



To change or add a translucent film, follow the above mentioned lens eplacement procedure.

### Wiring Diagram

