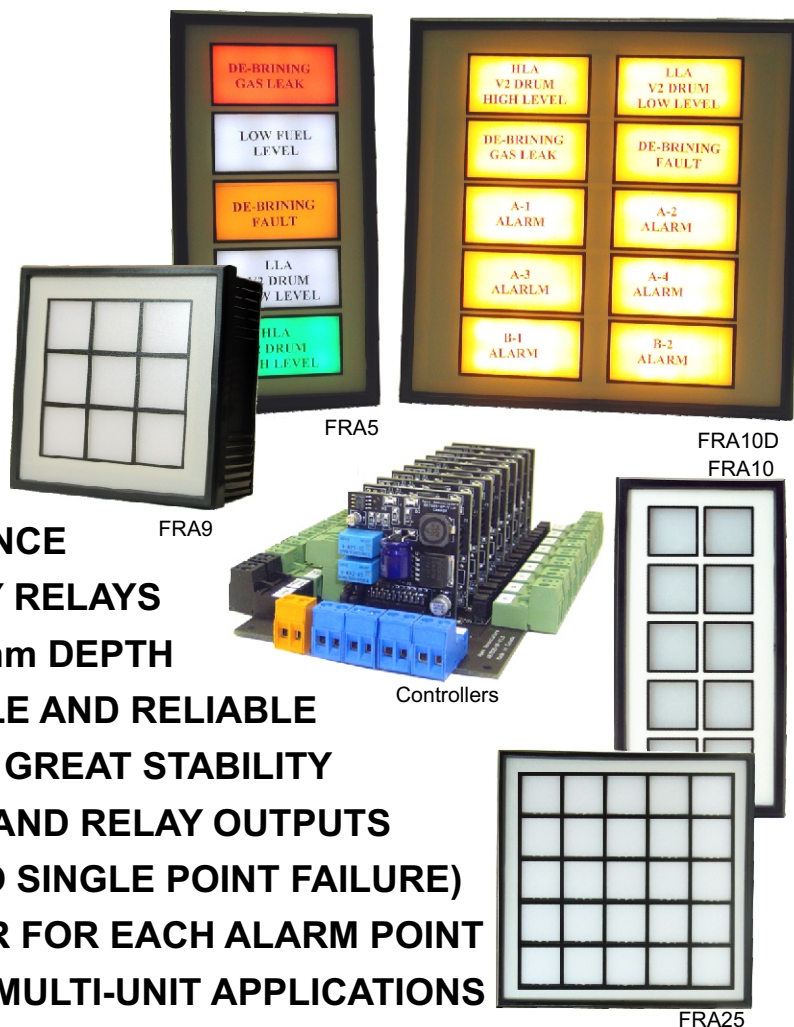


## SERIES: FRA

- RELAY LOGIC BASED
- FOUR LED COLOURS
- REMOTE CONTROLLER
- ISA-S18.1 ALARM SEQUENCE
- COMMON AND AUXILIARY RELAYS
- FLUSH MOUNT WITH 68 mm DEPTH
- FULL FUNCTION, FLEXIBLE AND RELIABLE
- LONG SERVICE LIFE AND GREAT STABILITY
- OPTO ISOLATED INPUTS AND RELAY OUTPUTS
- NO MASTER MODULE (NO SINGLE POINT FAILURE)
- ONE LOGIC CONTROLLER FOR EACH ALARM POINT
- SYNCHRONIZATION FOR MULTI-UNIT APPLICATIONS



## INTRODUCTION

Indumart *FRA Series* of Alarm Annunciators are relay logic based systems suitable for alarm control in various processes such as electrical substations, refineries, steels mills, pharmaceutical manufacturing, ships, machines, buildings and many commercial applications. The combination of great stability, noise immunity and simplicity of the logic circuits make these alarm annunciator systems ideal for any place with limited technical support.

The *FRA Series* of Alarm Annunciators are offered in fixed sizes designed to fit in the DIN size cut-outs. The controller is placed separately from the display window supporting all necessary push buttons; such as Acknowledge, Reset, Test and Mute for various operating sequences.

Conforming to the fact that "No Master Module" systems ensure a higher safety for critical application, the *FRA Series* of Alarm

Annunciators with individual alarm modules are configured individually by the aid of jumper setting with no software required. Options for various voltage input may be specified at the time of ordering.

Each of the channels can be set to activate either with normally open/normally closed contact. The alarm logic is designed to generate major ISA 18.1 sequences, as well as a number of custom sequences.

Opto isolation of inputs and relay outputs along with common and auxiliary relays are other features of the *FRA Series*. Any alarm point may be supplied with a repeat relay. In accordance with the input or the output, the repeat relay can be set to be a NO or NC contact. The system requires a 24 VDC (19...30 VDC) unregulated power supply for operation.

## SPECIFICATIONS

<b>No. of Windows</b>	5, 9, 10, 15 or 25
<b>Enclosure (not face)</b>	Aluminum painted black
<b>Depth</b>	68 mm
<b>Push Buttons</b>	Acknowledge, Reset, Test & Mute
<b>LED Colours</b>	White, red, yellow, green
<b>Alarm Sequence</b>	ISA-S18.1-1979; Manual Rest (M), Auto Reset (A) Manual Reset First Out (F2M-1) Auto Reset First Out (F1A), others
<b>Alarm Delay</b>	No delay (std); 300 ms...10 days (op.)
<b>Input</b>	NO or NC voltage free contacts or 24 V, 48 V, 110 V or 220 V (AC or DC) All inputs are bipolar, which can accept AC or DC voltages
<b>Output</b>	Display, Audio, Auxiliary, First-up Common Alarm
<b>Auxiliary Relay</b>	NO or NC to follows input or output
<b>Isolation</b>	2000 VAC Opto isolated inputs, relay output
<b>Power Supply</b>	24 nominal, 20...36 VDC
<b>Power Consumption</b>	30 mA per channel
<b>Operating Conditions</b>	-20...+60 C; 0...95% RH
<b>Mounting</b>	Flush panel mount
<b>Alarm Text</b>	Inkjet printing; easily changeable

# of Windows	Enclosure (mm)	Cut-out (mm)	Window zise (mm)
5	72 x 144	68 x 140	22 x 45
9	96 x 96	92 x 92	22 x 22
10	72 x 144	68 x 140	22 x 22
10	144 x 144	140 x 140	22 x 45
15	96 x 144	92 x 140	22 x 22
25	144 x 144	140 x 140	22 x 22

## ORDER CODES

### Model FRA

#### No. of Windows

Select from the above Table  
For 10 windows unit with  
144 x 144 mm dimension,  
please use 10D

#### Input Signal

24/48 V or Dry Contact  
24/110 V or Dry Contact  
24/220 V or Dry Contact  
Other (please specify)

#### Alarm Sequence

Standard (M, A, F1A, F2M-1)  
Other (please specify)

#### Auxiliary Relay

Not Required  
One for Each Input

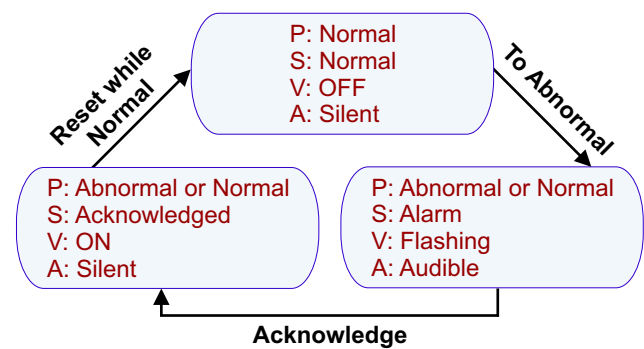
#### LED Colour

Green  
Red  
White  
Yellow  
Various Colours (please specify)

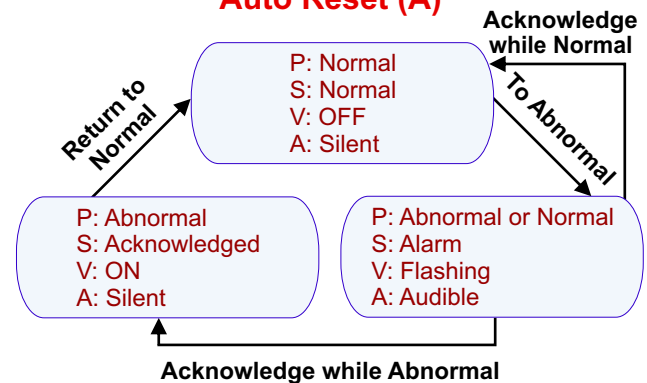
## ALARM SEQUENCES

P = Process S = Sequence V = Visual A = Audible

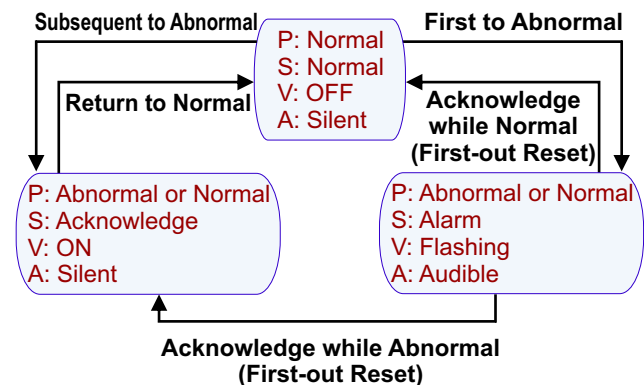
### Manual Reset (M)



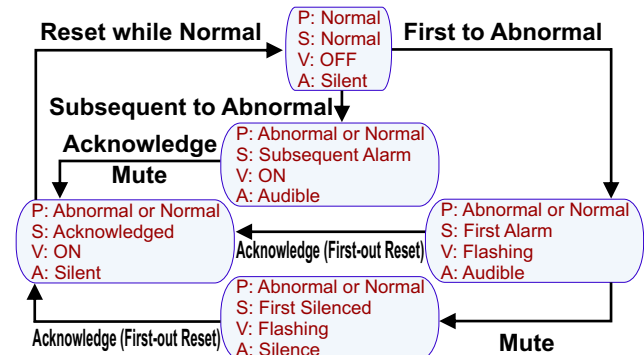
### Auto Reset (A)



### Auto Reset First Out (F1A)



### Manual Reset First Out (F2M-1)



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