



# Alarm Annunciation System

**'Digilarm' Series - 1800**

## FEATURES

- **Latest Technology, Microcontroller based.**
- **Masterless 4-channel Plugin cards.**
- **LED windows with computer composed legends on photofilm.**
- **Works on any volts AC or DC. Plug-in type SMPS module.**
- **Jumper selectable alarm sequences, separately for every card.**
- **NO/NC input selectable by DIP switches on every card**
- **First - out group expansion**
- **Auxillary tripping contact**
- **Automatic sound cancellation**



## General

By adopting modular design combined with latest Microcontroller technology, 'Digilarm Series 1800' provides more features than any other system available. High noise immunity is provided at very low power, hence ideally suited for all industrial environments.

4-Annunciation channels are mounted on one card module for compactness and cost reduction.

For input derived from 'dry' field contacts, the system is supplied either in Integral or Split architecture. The visual displays are available in any Rows x Column configuration of 8 or more windows. The integral unit and the windows cabinet in case of Split system are flush panel mounting type.

Audible alarm device (Hooter/buzzer etc.) and Push Buttons are generally supplied 'loose' for separate mounting but can be provided on front of the Annunciation unit itself, if so required by the customer.

Unsurpassed versatility of the 'Series - 1800' system permits field alteration of virtually every major aspect of Annunciators operation - Working voltage, NO/NC input Alarm Sequence, First-out groups, etc.

Use of microcontroller has greatly reduced the number of components, thereby enhancing reliability. No maintenance required. Not even lamps. Long life, super bright LED's have been used. No parts that could call for replacements.

## Masterless Modules

In safety critical applications like Alarm Annunciators, it is paramount that the reliability of equipment is second to none. Unlike other microprocessor based systems, the 'Series - 1800' Annunciator has no master module and hence no single source of system failure. Each 4-way alarm card has its own Microcontroller which is capable of complete function including flasher generation. If this board is removed or the IC goes faulty, then no other card's working is affected. The worst 'system fault' that could occur would be loss of 4 - Alarm ways. And it can be set right just by replacing with a spare card.

## Field Programmability

System uses a Plug-in, SMPS type, Power supply module having 'Universal' input (any volts between 90-270V AC or DC). System working voltage alteration is therefore easily possible without making any change in the supply unit.

Alarm operational sequence, one out of 8 given in the sequence chart can be selected by shorting / opening of 3-jumpers provided on each card. This will assign alarm sequence for the 4-Ann. channels on that very card. Desired sequence must be individually assigned to every card in an Ann. unit.

Operation from NO or NC input contact can be changed on a per point basis simply by flip of DIP switches provided on every card.

## TECHNICAL DATA

<b>Power Supply</b>	Any volts between 90-270V AC or DC earthed or floating															
<b>Power Consumption</b>	1.5 Watts per channel. (i) Potential free contact NO or NC type. Individually selectable for each channel by DIP switch on the logic card. (ii) Optionally available Transistor or logic level input from PLC or any other device.															
<b>Line Resistance</b>	Resistance of field cable can be upto 1.0 K Ohm															
<b>Interrogation voltage</b>	24V D.C.															
<b>Response Time</b>	50 m Sec. (Max.)															
<b>First - out Resolution</b>	50 m Sec. (Max.)															
<b>SWC at Inputs</b>	2.5 KV as per IEEE, 472, 1974															
<b>Flashing Frequency</b>	Fast Flash - 270 c/s per Min. Normal/Slow flash - 54 c/s per Min.															
<b>Output Contacts</b>	2NO Contacts, One for hooter driving. Other as Tripping contact.															
<b>Contact Rating</b>	250 V AC, 3A (Resistive)															
<b>Ambient Temp.</b>	Upto 55 °C															
<b>Relative Humidity</b>	Upto 95%															
<b>Windows</b>	(i) 4 - sizes are availavle. Customer may give his choice looking into available panel space. <table border="1"><thead><tr><th>Window size</th><th>Legends Lines x Letters</th><th>Letter size</th></tr></thead><tbody><tr><td>70 x 50</td><td>4 x 16</td><td>4 mm</td></tr><tr><td>75 x 42</td><td>4 x 18</td><td>4 mm</td></tr><tr><td>70 x 40</td><td>4 x 16</td><td>4 mm</td></tr><tr><td>55 x 30</td><td>4 x 16</td><td>3 mm</td></tr></tbody></table> (ii) All windows are ABS plastic moulded. The window facia is slanted 7.5° off vertical so that display faces into the viewing area. Facia is slide-in type from top of the window so that legend plate can be replaced easily.	Window size	Legends Lines x Letters	Letter size	70 x 50	4 x 16	4 mm	75 x 42	4 x 18	4 mm	70 x 40	4 x 16	4 mm	55 x 30	4 x 16	3 mm
Window size	Legends Lines x Letters	Letter size														
70 x 50	4 x 16	4 mm														
75 x 42	4 x 18	4 mm														
70 x 40	4 x 16	4 mm														
55 x 30	4 x 16	3 mm														
<b>Color of window light</b>	Either 'Red' or 'Yellow' (Choice to be given while ordering)															

## Sequence Logic Cards

The Alarm logic module uses Solid State Microcontroller technology to provide unparalleled reliability. Glass epoxy PC boards are used. 4 - identical annunciation ways are packaged on each card mouldle which plug into connector sockets of the mother board and are interchangeable. 4 'Red' LED indicators working in parallel to the LED lamps output is a standard feature. One 'Yellow' LED indicator is provided to show healthiness of the mocrocontroller IC and it flashes when everything is healthy.

Single 24 V DC Power is needed and voltages for working of logic, lamps etc. are generated on the card itself. Conscientiously designed circuit schemes are used to filter out EM & RF noises associated with the field inputs, Push Buttons and Power Supply.

## LED windows

The visual display window requires only 30 mA to operate in comparison to 120 mA for conventional filament lamps and do not require replacements. LED's can be ordered in two different colours. RED/YELLOW to easily differentiate groups of points by urgency, First - out groups or nature of alarms.

## Push Buttons

Terminals are provided to connect 4 PB's for Test (Full sequence test), Lamp Test, Accept and Reset functions. In case of First - out sequence test facility is irrelevant and therefore has not been provided. The Test button works as First out Reset Button. In case of Integral Annunciators the push buttons, as an option, can be provided on the front of the Annunciation Unit itself

## First-out Group Expansion

In case of First -out sequences the first fault in a group of faults has to be notified. In some applications the group can be very large. 'Series-1800' can be used in multi-units. First-out group expander output has been made available on each unit. 'FOEXP' of the different units can be looped together to make a bigger first-out group.



## Automatic Sound Cancellation

Whenever any new fault occurs, the alarm hooter contact 'HTR' closes. It breaks when 'ACK' button is pressed or after 10 Mins. automatically.

## Split Architecture

The windows and the Logics can be supplied in seperate enclosures to be mounted seperately.

Windows are arranged in any rows x column configuration in flush panel mounting window-boxes with rear connection terminals. Logics together with power supply modules and the input/output terminals are supplied in wall mounting chasses (if the system is small) or in standard Cabinets for large systems.

	
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