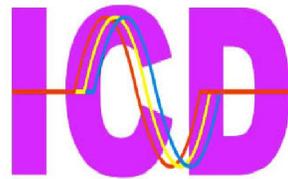


Operating & Maintenance Manual

ALARM ANNUNCIATOR

(8 WINDOWS)



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ALARM ANNUNCIATOR

General description:

ICD's Micro controller based **Alarm-Annunciator** housed in ISD cabinet is a flush panel mounting unit. The unit is of an integrated design with all functional sub assemblies in the same housing with front and rear accessibility. In some case, with a split architecture having separate logic chassis and lamp box. This practice is adopted especially when the system is large. CPU run led status is provided in front panel of the instruments. LED illuminated when the CPU board is in healthy condition..

The system constitutes the implementation of a sophisticated system with reliability and economy built into it. These instruments perform extremely well in noisy environment and hence are ideally suited for industrial environment.

The cabinet has a hinged front display panel, which contains the screw in windows, the lamp housing with cluster of LEDS for each alarm point. On opening the panel, the module pack and power pack are made accessible.

The module pack holds the request number of sequence modules and a common motherboard, which has power, supply section, CPU section. PCB's are plugging in type with male and female Euro connectors for adequate contacts.

The modules are made out of glass epoxy grade PTH board with connection foils and green masking. All the cards are operated with common power supply and audio alarm circuit.

The rear consists of the terminal assembly which provides barrier type terminal blocks for making various field connection and volt free contacts for operating any audible device such as Hooter, bell, siren etc.

Circuits:

ICD Annunciator utilizes the industry proven flash controller based circuit technology with adequate on board protection. The standard feature of the system is the front end isolation by virtue of which field catering is simplified and practically no protection are required in cable routing.

The use of high input impedance device ensures low power consumption and the power requirement is practically limited only to the filament current.

The common function card provides the flash frequency and hooter drive logic with facility for hooter cancel.

8 Windows NO/NC Details

PCB1 (ICD/CAD/1232/001- (channel1-channel 9) card works for has NC selection (normally the selection will be in NO) through 3 Pin jumper settings .
PCB3 (ICD/CAD/1234/001) CPU Card works has sequence selection .

The power supply comprising of the power transformer, the rectified power source for logic cards and unregulated power for hooter relay. It provides the following voltage with adequate fuse protection. 5 mm relay ON & TXD,RXD LED Provided.

PCB'S DETAILS:

- 1) ICD/CAD/1232/001- Channel card & ICD/CAD/1233(Mother Board)
- 2) ICD/CAD/1234/001- CPU & ICD/CAD1235/001-Mother Board

Installation:

Pre – installation checks comprise of removing the instrument from the transport packing.

Note:

If the transport packing is found damaged heavily, please do not unpack without intimation to concerned authorities.

- **Open the front lamp housing door to check that the various cards and power supply are in proper location. If loose insert properly. The back panel connectors are keyed so that wrong insertion can be avoided**
- **While handling the cards, care must be exercised as the devices are prone to damage if excess static charge is applied.**

The following points are to be observed:

1. Handle the cards by the edge.
 2. Do not slide (or) rub the cards on synthetic surface.
 3. Do not plug in or out while instrument is in powered condition.
- Integral unit or display unit are to be fixed on to the front panel by means of the fixing clamp. It is also advisable to provide an angle support when installing integral unit.

Post Installation Checks:

1. Temporarily disconnect the hooter to avoid audio alarm during operational Check.
2. Switch ON the power supply. Random logic may be presented which are to be reset in the event of manual sequence and acknowledged in the event of ring back sequences.
3. Each alarm may be externally stimulated and checked for correctness of operation and sequence.
4. If the alarm input after connecting to plant inputs presents a permanent fault condition due to existing plant conditions disconnect the input and check the sequence.

Functional Check (for 90-270V AC input)

1. Simulate an Trip condition at the input terminal by 90 - 270 VAC supply to the terminals
2. The window flashes and at the same time the relay output will be available at the terminal through which a hooter or siren can be connected.
3. Press the ACK (alarm acknowledge) push button on the front panel or short the acknowledge terminal at the rear terminal so that hooter silences and window lamps fix to steady ON state
4. After rectifying the fault press reset push button so that window lamp switches to OFF state.
5. Repeat the same procedure for other fault inputs.

Sequence Of Operation:

The instrument can work four type modes by selection of 8 bit dip Switch CPU board. When we change the operation by dip switch selection the instrument should OFF. Use only first 2 pin in dipswitch, Dipswitch selection details given below,

PCB NO ICD/CAD/1234/001	DIPSWITCH			
	4	3	2	1
BIT NUMBER				
Manual Reset	0	0	0	0
Auto Reset	0	0	0	1
Ring back sequence	0	0	1	0
First In First Out	0	0	1	1

1. Manual Reset

ALARM DEVICE	NORMAL	ALERT	ACK	RETURN TO NORMAL	RESET
AUDIBLE	OFF	ON	OFF	OFF	OFF
VISUAL	OFF	FLASH	STEADY	STEADY	OFF

2. Auto Reset

ALARM DEVICE	NORMAL	ALERT	ACK	RETURN TO NORMAL	RESET
AUDIBLE	OFF	ON	OFF	OFF	OFF
VISUAL	OFF	FLASH	OFF	OFF	OFF

3. Ring Back Sequence

ALARM DEVICE	NORMAL	ALERT	ACCEPT	RETURN TO NORMAL	RESET
AUDIBLE	OFF	ON	OFF	OFF	OFF
VISUAL	OFF	NORMAL FLASH	STEADY	SLOW FLASH	OFF

4.First In First Out Sequence

	NORMAL		ALERT		ACK(ACCEPT)		RETURN TO NORMAL		RESET	
	FIRST	SUB	FIRST	SUB	FIRST	SUB	FIRST	SUB	FIRST	SUB
VISUAL	OFF	OFF	FAST .FLASH	SLOW FLASH	STEADY	STEADY	STEADY	STEADY	OFF	OFF
AUDIO	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF

Technical specification:

1. Name : Alarm Annunciator(Mater and slave unit)
(2Rows x 4 Columns)
2. No of windows : 8 windows
3. Window dimension : 30 (H) x 55 (W) mm
4. Flash rate : 60 flashes / mins
5. Power supply : 90 - 270 VAC/DC
6. Input : Potential free NO/NC contact
7. Contact rating : 5A@ 240VAC
8. Sequence of operation : Manual reset provided
- 9 .Test, Accept & reset, Aux.supply
& Relay output : Provided at back side Panel (Terminals)
10. Window LED status
Faulty condition : RED color LED indication
- 11.Good Condition : Green color indication.
11. Mountable : Panel Mounting
12. Dimension (Cutout) : 190 (H) X 320 (W) X 250 (D) -BEZEL
160 (H) X 290 (W) - CUTOUT

TROUBLE SHOOTING / FAULT FINDING MANUAL

Some of the most likely occurring fault and its nature and its rectifying method are given below, however for troubleshooting an attempt should always be made with the help of below description as explained.

Before that, an visual inspection should be made thoroughly to check any burnout or damaged components in the equipments, similarly broken, loose or burnt wire should be thoroughly checked

Any malfunction of the unit should be traced step by step procedure after understanding the working principle. However, an effort is made here, to give remedy for the some of the normal faults conditions. Most of the faults that are likely to occur are as follows

POSSIBLE CAUSE	FAULT FINDING POINTS (REMEDY)
Annunciator not working, when power ON the auxiliary /grid supply.	Check the aux. supply voltage is available 90 – 270 VAC at L & N from grid through your multimeter. if specified voltage is coming from your grid, finally faulty SMPS should be replaced .
Windows channel not working / illuminating	Remove window cover and check whether led's functioned or not, if led's are not functioned replaced the led's. If functioned check the 'NO' contact is properly closed for respective channel. If above said two conditions is good replacing the opto coupler IC PC817 .
Output Relay not access when fault is occurred	Check continuity test for 'NO' contact after energizing the relay. If it is OK, replace the respective faulty relay.
Function not working (Test, accepts, Reset)	check the 'NO' contact is closed or not .If properly done replace the opto coupler IC PC817 .

Note : Before you handling the fault for above said remedy points, kindly discuss / mail to our service department for helping. **Mail id :- service@icdipl.net**