



# INSTRUCTION MANUAL

## MODEL :GAS RELEASE PANEL

ERTL TESTED AS PER IS:2189



### NATIONAL SECURITY DEVICES

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# INTRODUCTION

## About The Company

We heartily welcome you in the family of **NATIONAL SECURITY DEVICES**, is well known name in the field of mfg fire alarm systems. We came in to the field of manufacturing and with in a short span of a decades time, We succeed to achieve upper layer of the industry, got good response & respect from the customer for quality product & timebond services. Still aiming to keep the high standard with our professionals, advanced technology, computerized R& D, in-house tool room/assambly plant and of course our skilled workmanship with the strict quality control.

## About The Product

This manual intended as a complete guide to the model Gas release panel. This microprocessor based gas release Panel is implemented with wide range of application required in gas release Automation. Its default setting suitable to use CO<sub>2</sub>, Inert gases and FM 200 Applications.

## System Design and Plan

This panel is designed to meet the general requirement of IS 2189:1999. Basically these system used in very high sensitive area where fire can not tolerate till the manual prevention or fire fighting depart/duty persons. Example data room, laboratory, server room, currency chest etc.



## GENERAL FEATURES

The microprocessor based automatic Gas Release Control and indication panel is designed to cross zoning the fire input and control fire in earliest practicable moment with the help 24 V Extinguisher output .

The panel operates on 220 V AC Mains with 24 V DC Battery as a stand by power , The built in circuit provide constant voltage charging to maintain the battery capacity.

- ❖ Operates on 220 V AC supply
- ❖ Stand by battery backup with Built in charging
- ❖ Error free panel status in unambiguous colored LED indication
- ❖ System on Mains ON battery Low status indication
- ❖ Low battery visual warning with Audit able tone
- ❖ Two Modes Operating Facility (Auto / Manual )
- ❖ Cross Zoning Facility
- ❖ 24 V Solenoid Output with On and Off timer
- ❖ Manual Gas Release without timer
- ❖ Manual Abort Facility
- ❖ Rugged CRCA sheet with powder coated finish
- ❖ Modular Construction
- ❖ Relay Output for actuators

## MECHANICAL CONSTRUCTION

The enclosure of the panel is constructed by CRCA Sheet with powder-coated finish and its designed to afford the degree of protection as per IP54 , The 20 mm Knock outs are given for cable entry at the top of the cabinet.

The Panel has a built in battery space for 2Nos of 12 V , 7 AH Batteries.

The front side of the panel consist of the following

- 1) Control Switches
- 2) LED Indication

## **INSTALLATION AND COMMISSIONING**

### **Installation**

The installation of the Fire detection and alarm should comply with

- a) The installation of the Electrical engineers (IEE) wiring regulation and standards.
- b) The Indian Standard of fire Detection and alarm for building.
- c) The installation cable should not be in the area of proximity of high voltage cable or induce electrical interference.

Place the panel in its outing Position and fix the panel to the wall using the slot of the screw , Ensure the enclosure and the inner parts of the panel are given sufficient protection during installation period . All external cables are to be entered via the 20 mm performed knockout located at the top of the panel .

After the installation of all cables has been completed , clean the interior of the enclosure ensuring all masonry debris and drilling swords are removed.

### **COMMISSIONING**

Check all entered wiring is correctly identified and also check all free from fault condition by a multi meter . Connect the external wiring into their respective terminal and ensure the end of line (EOL ) resistor is placed at the last device of circuit.

Prior to the power up of the panel conduct the following preliminary checks

- a) check for any external signs of damage caused during installation
- b) Checks all PCBs are secure in its monitoring position.
- c) Check all cable are secure and correctly connected.
- d) Check all the cable termination is tight & Secure.
- e) Connect the batteries ensuring the correct polarity.

**All damages / Fault must be rectified before proceeding**

## **INDICATOR AND CONTROLS**

(uses and normal state)

### **ZONE MONITOR INDICATIONS**

**NORMAL:** These are the green glowing pair LED of zone normal condition in case any events these LED's goes off .

**FIRE :** These are the Red glowing LED for fire conditioning. These LED are in pair In case of fire LED's glow . Normally these LED's retain off .

**OPEN :**These are the yellow glowing LED for open conditioning. These LED are in pair In case of zone open condition of detector , cables/ wire or end of line in case any events normally these LED's retain off.

**SHORT :**These are the yellow glowing LED for short condition. These LED are in pair In case of zone short condition of detector , cables/ wire or end of line in case any events normally these LED's retain off.

### **POWER INDICATION**

- a) SYSTEM ON
- b) CHARGER
- c) AC FAIL
- d) BATTERY FAIL
- e) BATTERY LOW
- f) FUSE

## **GAS MONITOR INDICATION**

**ABORT :-** Dual LED indicate the operating condition of ABORT switch. This switch has provided for preventing the gas in false fire case or if the fire is control more effectely rather then this system. ABORT switch is field operated input device.

**CROSS ZONE:-** Twin LED signing in event of fire in both zone simultaneously. This event is known as cross zone fire. Basically this is the line where detection & fire fighting is separate task.

**MANUAL RELEASE :-** Operated release switch raise a LED signal on the panel marked as manual release. In case of emergency or either panel not detect fire so manual release switch is used to flood the gas. For operating this switch panel must be in MANUAL MODE.

**TIMER:-** After cross zone fire timer start to count down for discharging the gas .Pair of LED blink during this time .

**SOLENOID OPEN :** These LED indicate that solenoid is not connected to the panel or it is wrong wiring/termination.

**PRESSURE LOW:** If pressure is below the limit in flooding system these twin LED sign. It mean refill the gas bank immediately.



## OUTPUT

### **MODULE:-**

It is facility to connect the panel with addressable fire alarm system . If addressable system provide potential free contact after detecting fire then this panel act for conducting further operation for gas flooding . It mean this panel can be used for gas flooding with addressable system.

### **WARNING SIGN:-**

Before discharging the gas this terminal provide output of 24 volt d.c. for a sign board witch generate audio & video signal. So that evacuation can be done within safe time. There is anther function of warning sign is if there is false fire then you can abort the gas flooding operation.

### **GAS DISCHARGE:-**

This terminals 24 d.c. output is activated with the solenoid out put & a sign board glows that mean gas has been discharged.

### **SOLENOID MAIN:-**

Out put for MAIN Solenoid is appear on this terminal. For MAIN SOLENOID Valve(SOV) operation it is must that bank selector switch should be in main bank position.

### **SOLENOID STANDBY:-**

Out put for STANDBY Solenoid is appear on this terminal. For STANDBY SOLENOID Valve(SOV) operation it is must that bank selector switch should standby in main bank position.

### **FIRE POTENTIAL FREE CONTACT :-**

These are relay contact that change over its position in case of fire either it is cross zone or single zone.

### **FAULT POTENTIAL FREE CONTACT :-**

These are relay contact that change over its position in case of fault either it is cross zone or single zone.



## CONTROL

**RESET :-** This switch has provided for restarting the system after any event or function .

**LAMP TEST:-** To check the LED in healthy position press this switch . All LED will be glow with the buzzer sound .

**SILENCE :-** Whenever any signal comes from field's device , the external buzzer beeping with the information on LED glow of respective zone . To mute that audio alarm press silence button or in case of fire the hooter sound can be muted by pressing this button.

**AUTO :** This is the mode selection switch who has decide to gas monitor function in auto mode.

**OFF :** This switch is provided for non functioning of gas flooding system.

**MANUAL :** This switch is provided for functioning of gas flooding system in MANUAL MODE.

## BANK SELECTOR

This switch is provided for BANK SELECTION .there are two positions .

- 1)main bank
- 2)standby bank



## TECHNICAL DATA

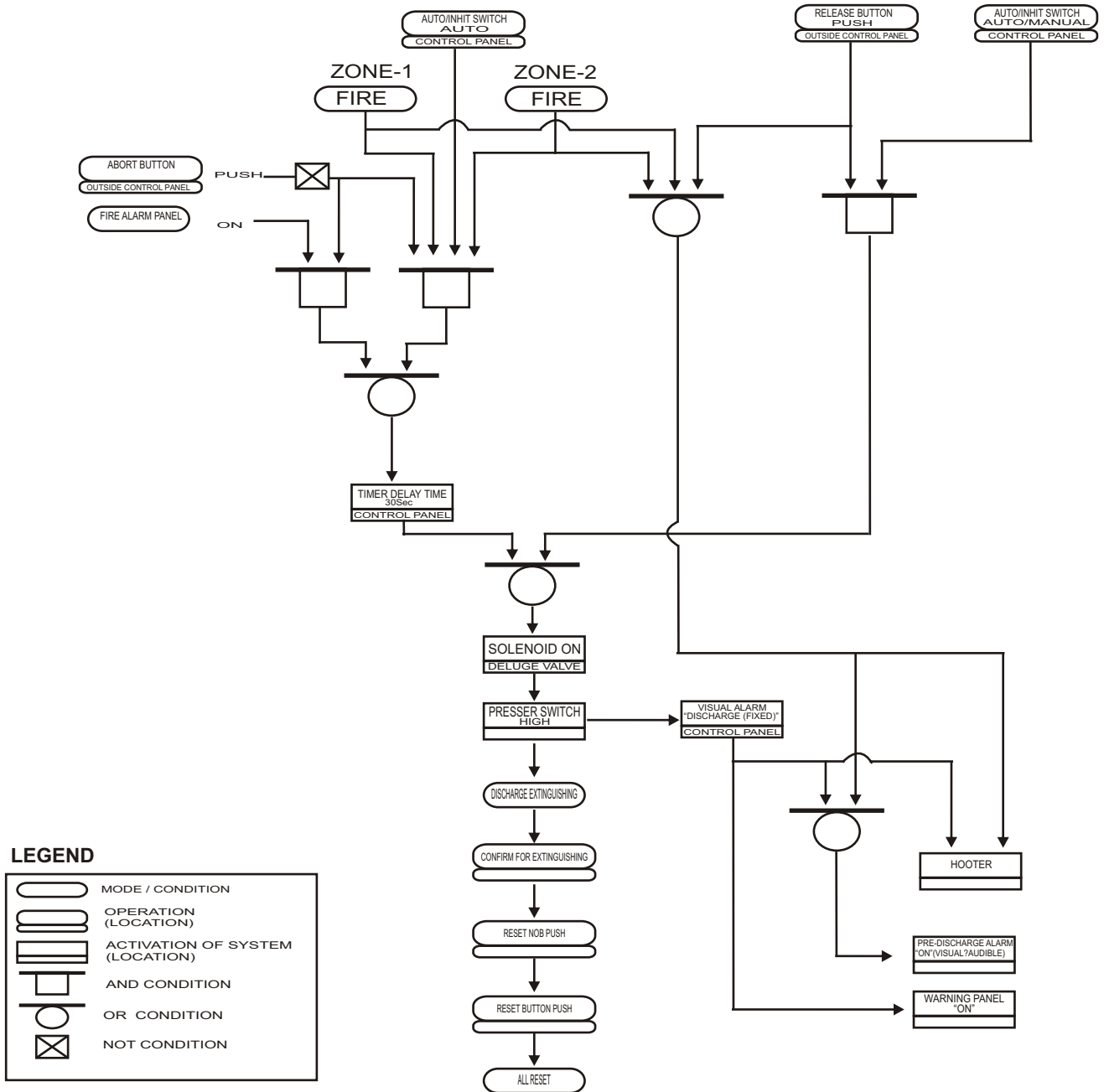
OPERATING VOLTAGE	: 24 DC+ 10%
MAINS SUPPLY	: 230V AC 190V AC
STAND BY SUPPLY	: 24V/4.5Amper
DISCHAR. INDI. OUTPUT	: 24V/500MA
SOLENOID OUT PUT	: 24V/3Amp
POTENTIAL FREE CONTACT	: FIRE & FAULT
VOLTAGE CHARGER	: 26.6V
STAND BY CURRENT	: 15.6MA/ZONE
ALARM CURRENT	: 35MA ZONE
AC FUSE RATING	: 500MA
DC FUSE RATING	: 6Amp
BATTERY FUSE RATING	: 6Amp
DIMENSIONS	: (420X340X120)MM.
WEIGHT	: 10 KG

6



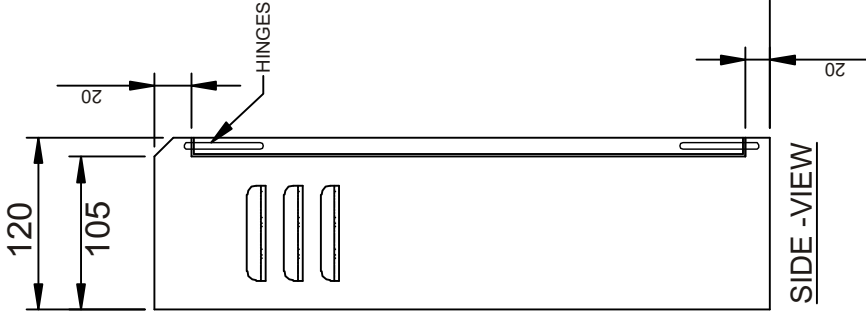
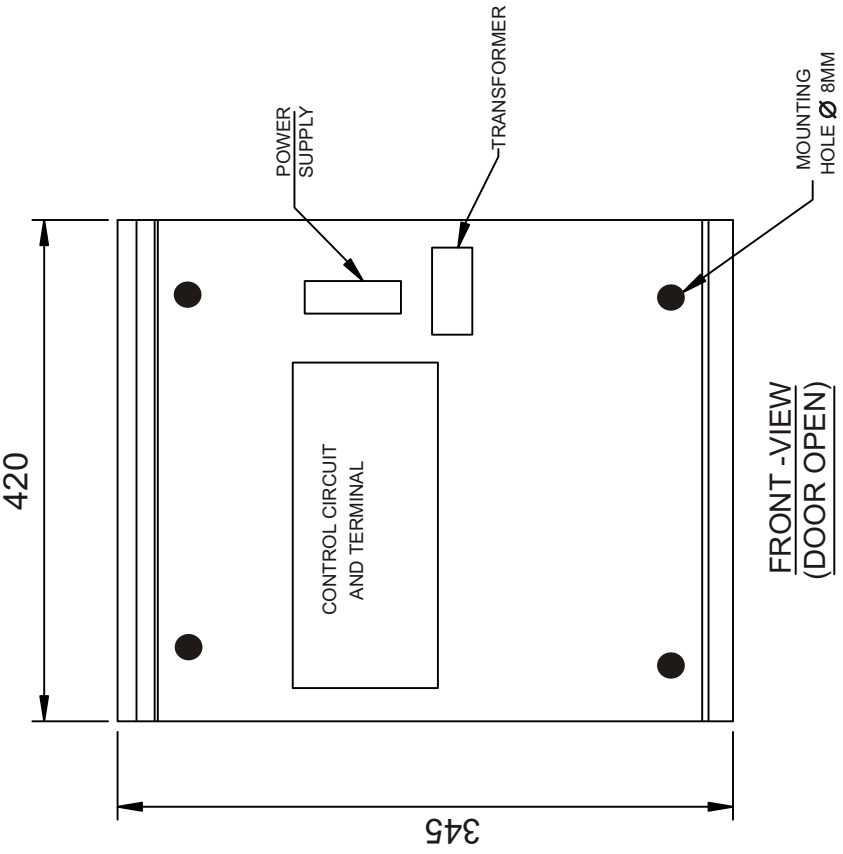
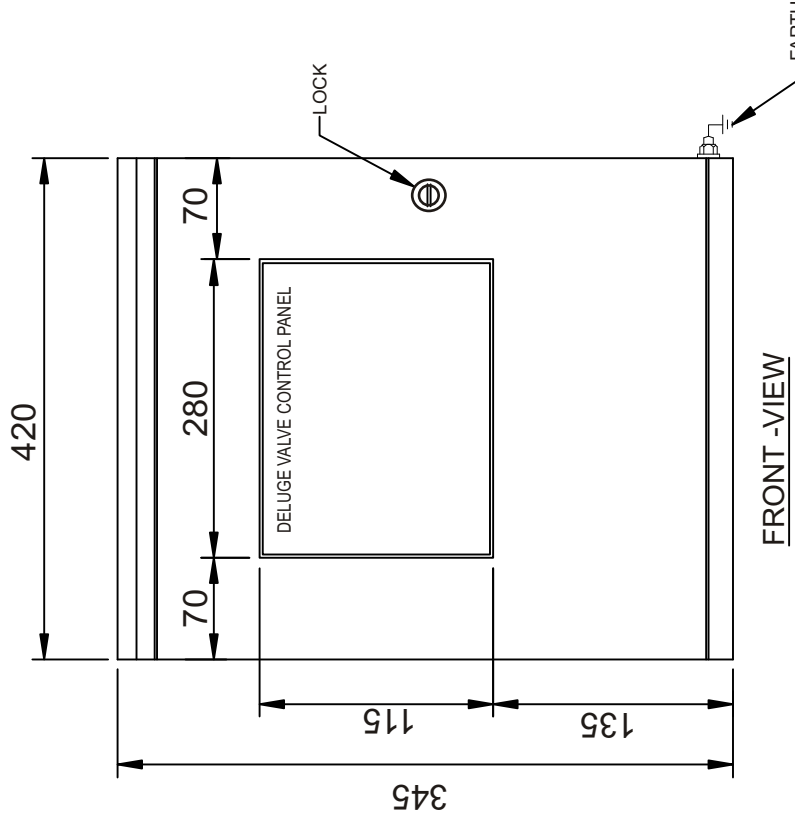


# PROCESS FLOW CHART

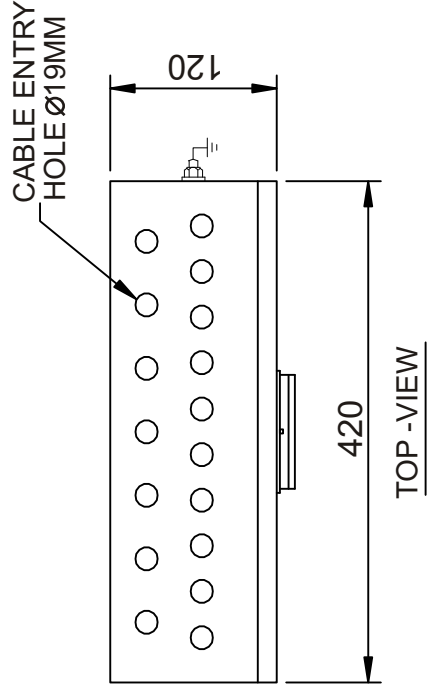


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# PHYSICAL DIMENSIONNOTES



**NSD**  
**AGNI ALARM**



**NOTES:-**

1. ALL DIMENSION ARE IN mm.
2. SHEET THICKNESS : 1.6mm CRCA
3. PAINT : POWDER PAINTING.  
COLOR SHADE-WHITE STRUCTURE
4. CABLE ENTRY FROM TOP
5. TYPE: WALL MOUNTING

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TITLE	CO 2 GAS FLOODING SYSTEM
CLIENT	
PROJECT	
FIRE CONTACTOR	
SRL. NO.	
DATE	

## WARRANTY CERTIFICATE

Dear Customer ,

Your NATIONAL SECURITY DEVICE Fire alarm system is guaranteed against manufacturing defects of parts and component for a period of 12 months from the date of purchase \_\_\_\_\_

During this period any items found defective will be repaired at our works or through service center.

Terms & Condition :

- 1) Serial o. Sticker should not be broken / tempered / mismatch as our record.
- 2) Product not used as per described guideline or hassling with electronic part.

**Serial No :**

**Stamp :**

**NATIONAL SECURITY DEVICES**



## TEST REPORT

.....ZONE GAS RELEASE PANEL ..... SPARE ZONES  
.....

CONTRACTOR NAME	:	
CLIENT /SITE	:	
BILL NO. / CHALLAN NO .	:	
QUANTITY	:	
SERIAL NO.	:	
AC FUSE	:	.5 AMP
DC FUSE	:	6 AMP
FIRE CONDITION	:	SYSTEM OK
FAULT CONDITION	:	SYSTEM OK
FIRE & FAULT RELAY	:	SYSTEM OK
DETECTION & HOOTER LINE	:	SYSTEM OK

This is to certify that the gas release alarm control panel supplied as per detail has been manufactured by NATIONAL SECURITY DEVICE at Delhi -92 .Test producer are conducted as per guideline by costumer. Although all products tested as per IS:2189 stranded.

Test Report No . ERTL (N)/90 (4)-2K 7/Q0094 dated 14 May 2007.

It is again certified that all the featured laid down in the panel as per customers specification have been provided and checked .

**Date of Testing :**

**Date of Issued :**

**Q. C. MANAGER**

**Client Copy**



**DEALER'S NAME & Stamp**

**Model No. : Gas Release Panel --2 zone**

**Sr.No. :**

**Sale Date :**



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