



# *IFS-400*

**2 Zone & 4 Zone  
Fire Indicator Panel**

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## **OPERATORS MANUAL**

**Revision 1.02**

MANUFACTURED BY:  
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**SPECIFICATION****Overview**

Cabinet	Zinc Sealed Steel 1.2mm Powder Coated
Outside Dimensions	260mm H x 310mm W x 75mm D
AC Operational Voltage	220 VAC 50Hz +10% -15%
Standby Power Supply	24 VDC 1.2 AH Minimum
Microprocessor	80C52
Liquid Crystal Display	2 Lines x 16 Characters LED
Fuses	F1: Bell Output 1A, F2: Mimic Output 1A
E.O.L Resistor On Zone's	4K7 Ohms

**Internal 27VDC Power Supply.**

AC Input	27 VAC +10% - 15%
Output Current	1.0 Amps
Output Voltage	27.6 VDC
Current Limit	1.0 Amps
Output Ripple	50 mV

**Internal 5VDC Power Supply.**

AC Input	27 VAC $\pm$ 15% or 27.6VDC $\pm$ 15%
Output Current	0.5 Amps
Output Voltage	5.0 VDC
Output Ripple	150 mV

**Current Consumption**

Zones Fitted	Quiescent Current	Quiescent + 2 Zones in alarm +1 Bell
2	65 mA	160 mA
4	75 mA	170 mA

## TECHNICAL DESCRIPTION

### General

The panel consists of one PCB (IFS-966) and a control keypad. The PCB-966 board contains all the circuitry necessary for complete operation of the unit. It contains the Microprocessor, EPROM, liquid crystal display, keypad interface, LED indicators, and power supplies. The main control board is mounted in a frame, so that the front door can be removed easily without disturbing and electronic circuitry. Field terminals are easily accessible for attachment of field cables.

This panel is designed to monitor 2 or 4 fully supervised detection zones for alarm and fault conditions. In the event of an alarm the panel will ring the bells, display time of alarm and activate ancillary equipment. The international model can also be used in conjunction with a 922 gas-releasing module for discharging suppression gas.

### Zone Description

The alarm zones on the panel are monitored and scanned by variable ratio comparators. These are set up so that variations in power supply fluctuation, along with software filtering significantly reduce the possibility of false alarms and improve product efficiency and reliability.

Alarm Zone loop resistance is the end of line resistor (EOLR 4K7) and any parallel connected detector.

The level of current is used to define the status of the alarm zone is as follows:

I=3.5 mA and below	FAULT
I=4.0 - 5.0 mA at 24V	QUIESCENT
I=16 mA to 40 mA (current limited)	ALARM

### Internal 27VDC Power Supply Adjustment

With batteries disconnected and no alarms present, measure voltage across AUX+ and AUX- on the terminal strip and adjust the potentiometer VR1 until voltage is 28.2v 1%.

Current limiting is non-adjustable.

### Time Setting

With the unit powered up and with no alarms, remove the outer lid by unscrewing the two Philips head screws at the top. Turn the key switch to the enable position and use the two buttons to the right of the terminal block labelled "hrs" and "mins". Each press of these buttons will increment by 1 unit.

If the main power is disconnected and the batteries removed, the time will need to be set again.

### System Outputs

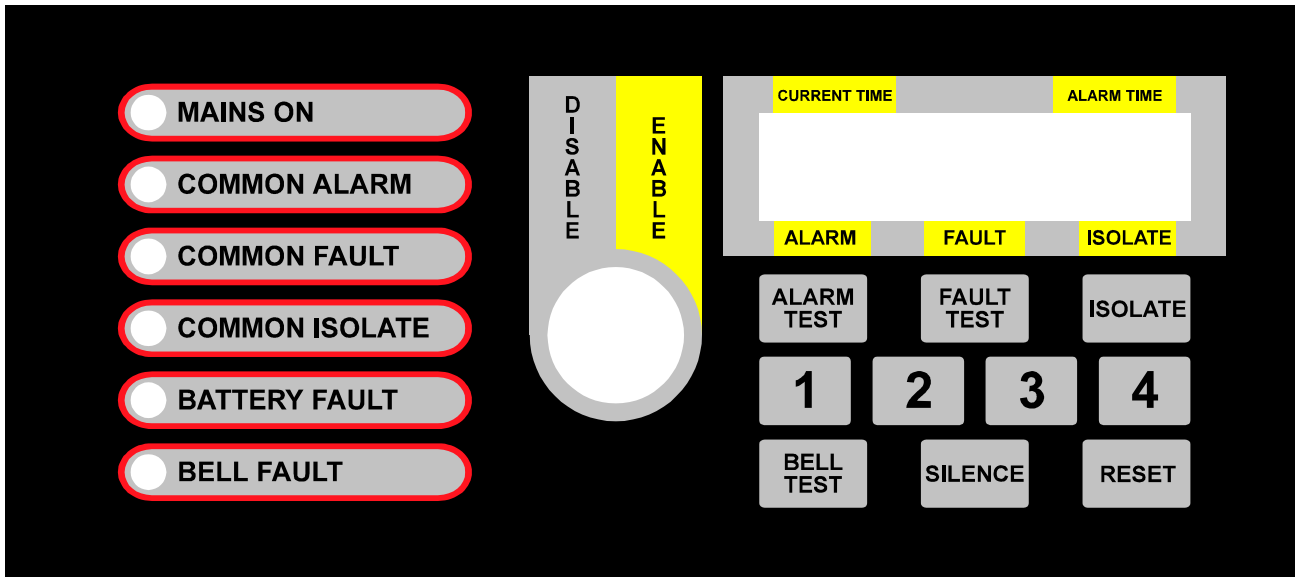
System outputs are provided as follows:

Auxiliary Power	24VDC Auxiliary Power Output 800mA Max
Bell Output	24VDC Fused 200 mA
Alarm Relay Contacts	Changeover voltage free contacts
Fault Relay Contacts	Changeover voltage free contacts
Mimic Outputs	Common 24VDC, Switched 0V, Max Total Current 500 mA.

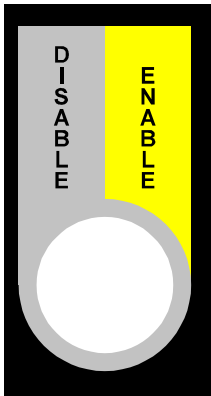
Note: The above ratings are subject to power supply current limit of 1 Amp. If using Auxiliary power and/or Mimic Output, at least 200 mA should be reserved for system operation. i.e. there is only a total of 800mA available for Auxiliary power and Mimic Output.

## OPERATING INSTRUCTIONS

Following is a typical layout of a four-zone control panel fascia. The purpose of indicators and control buttons are explained below:



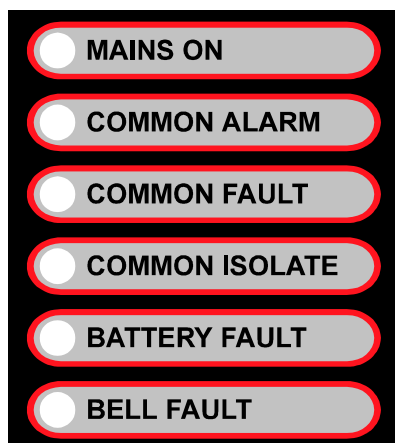
### Key Switch



Disable mode: prevents all functions on the keypad from operating. This prevents unauthorised use of the panel.

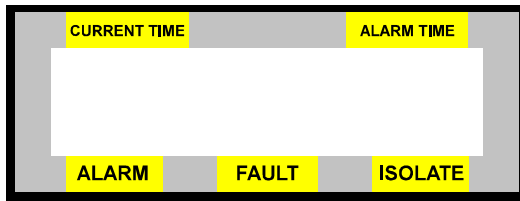
Enable Mode: allows full control of the panel including time setting.

### Led Indicators



- |        |  |
|--------|--|
| Green  | Mains AC supply to the panel.                |
| Red    | Flash if any zone goes into alarm.           |
| Yellow | Fault on the system.                         |
| Yellow | A zone is isolated.                          |
| Yellow | Batteries disconnected for more than 30 sec. |
| Yellow | Fault on the bell circuit.                   |

## LCD Display



The liquid crystal display shows the current time, time of alarm if applicable, zones in alarm, zones in fault and zones isolated.

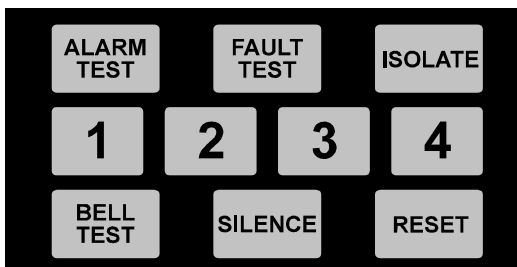
The time is displayed in 24-hour format. In the event of an alarm the time of alarm is displayed under "alarm time" and the standard time under "current time" continues as normal.

The characters 1,2,3,4 above the word "alarm" display the zone(s) in alarm.

The zones(s) in fault are displayed by the characters 1,2,3,4,G above the word "fault" whereby zones 1,2,3,4 are represented by 1,2,3,4 and the G is for external gas module fault if required.

The zone(s) currently isolated are displayed by the characters 1,2,3,4 above the word "isolate"

## Keypad Functions



### Alarm Test:

The alarm test function momentarily disconnects the detector lines of the zone(s) under test and simulates a detector going into alarm, therefore testing the zones alarm detection capability.

A resistive load equal to worst case alarm condition is placed on the zone for a period of 10 seconds and then removed. Once the zone has alarmed, all outputs are initiated as per a true alarm. The zone may be isolated prior to alarm test if desired; this will prevent any outputs from operating.

To perform an alarm test:

1. Press the "ALARM TEST" button once, the buzzer will give 1 short beep
2. LCD display will flash "AL-T".
3. Now enter the zone number 1,2,3 or 4

A long beep will be given if a wrong key is pressed. If a zone number is not entered within 15 seconds of pressing the alarm test button, the panel will return back to normal mode.

Example. To perform an alarm test on zone 2, press:



## **Fault Test:**

The fault test function momentarily disconnects the detection zone(s) under test and simulates the worst case condition for fault.

A resistor load equal to worst case fault is placed on the zone continuously for 10 seconds then the zone is returned back to it's normal condition.

To perform a fault test:

1. Press the "FAULT TEST" button once, the buzzer will give 1 short beep
2. LCD display will flash "FL-T".
3. Now enter the zone number 1,2,3 or 4

A long beep will be given if a wrong key is pressed. If a zone number is not entered within 15 seconds of pressing the fault test button, the panel will return back to normal mode.

Example. To perform a fault test on zone 2, press:



## **Isolate:**

The isolate function is used to prevent outputs from operating in the event of an alarm or fault. This is a toggle function, if you isolate a zone, it becomes isolated. If you isolate it again it becomes de-isolated. De-isolated is the normal condition.

To isolate a zone:

1. Press the "ISOLATE" button once, the buzzer will give 1 short beep
2. LCD display will flash "ISOL".
3. Now enter the zone number 1,2,3 or 4

A long beep will be given if a wrong key is pressed. If a zone number is not entered within 15 seconds of pressing the fault test button, the panel will return back to normal mode.

Example. To isolate or de-isolate zone 2, press:



## **Bell Test:**

Depressing the "BELL TEST" key, will activate the bells. The output is activated for as long as the key is pressed. Releasing the key will return the bells to their normal state.

## **Silence:**

When the buzzer and bells are operating, pressing the "SILENCE" key once will silence them, however if a subsequent alarm arises, the buzzer and bells will be reactivated and a second silence operation will be required to silence them.

## **Reset:**

The reset function is used to clear an alarm from the panel; it momentarily disconnects power from the detectors and resets all alarm parameters for the zone being reset. This returns the zone back to its "normal" state. During the reset period of 3 seconds all LED's on the panel will flash

To reset a zone:

1. Press the "RESET" button once, the buzzer will give 1 short beep
2. LCD display will flash "RSET".
3. Now enter the zone number 1,2,3,4 or the RESET key again.  
Note: By pressing "Reset" and then "Reset" again, this performs a reset on all zones.

A long beep will be given if a wrong key is pressed. If a zone number is not entered within 15 seconds of pressing the fault test button, the panel will return back to normal mode.

Example 1. To reset zone 2, press:

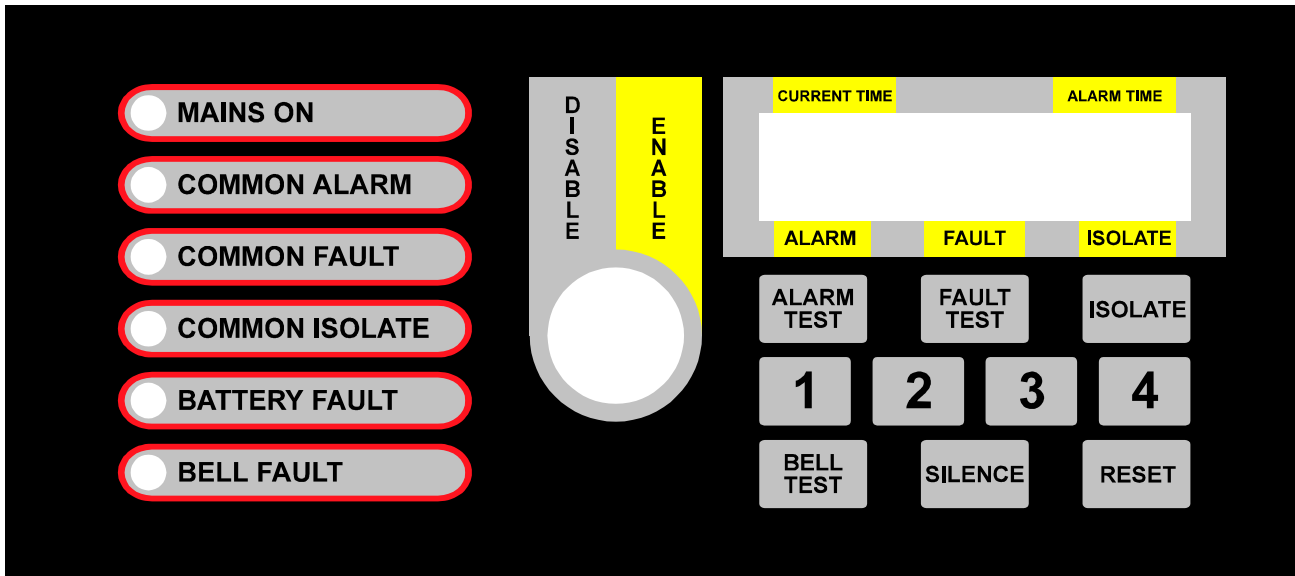


Example 2. To reset all zones, press:

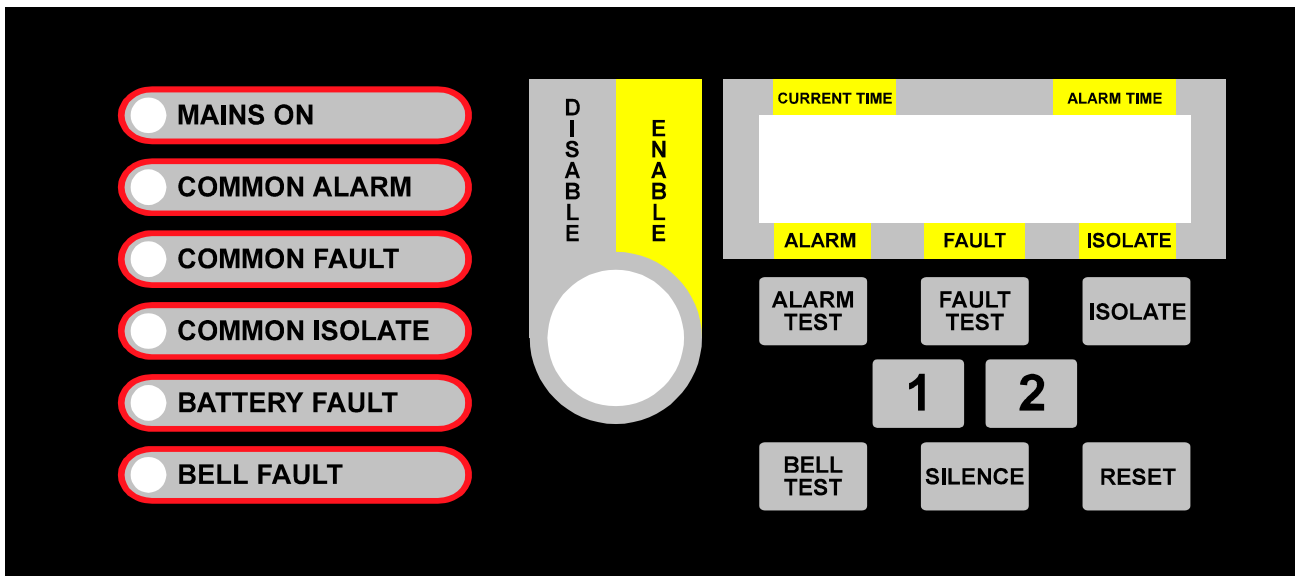


TECHNICAL DRAWINGS

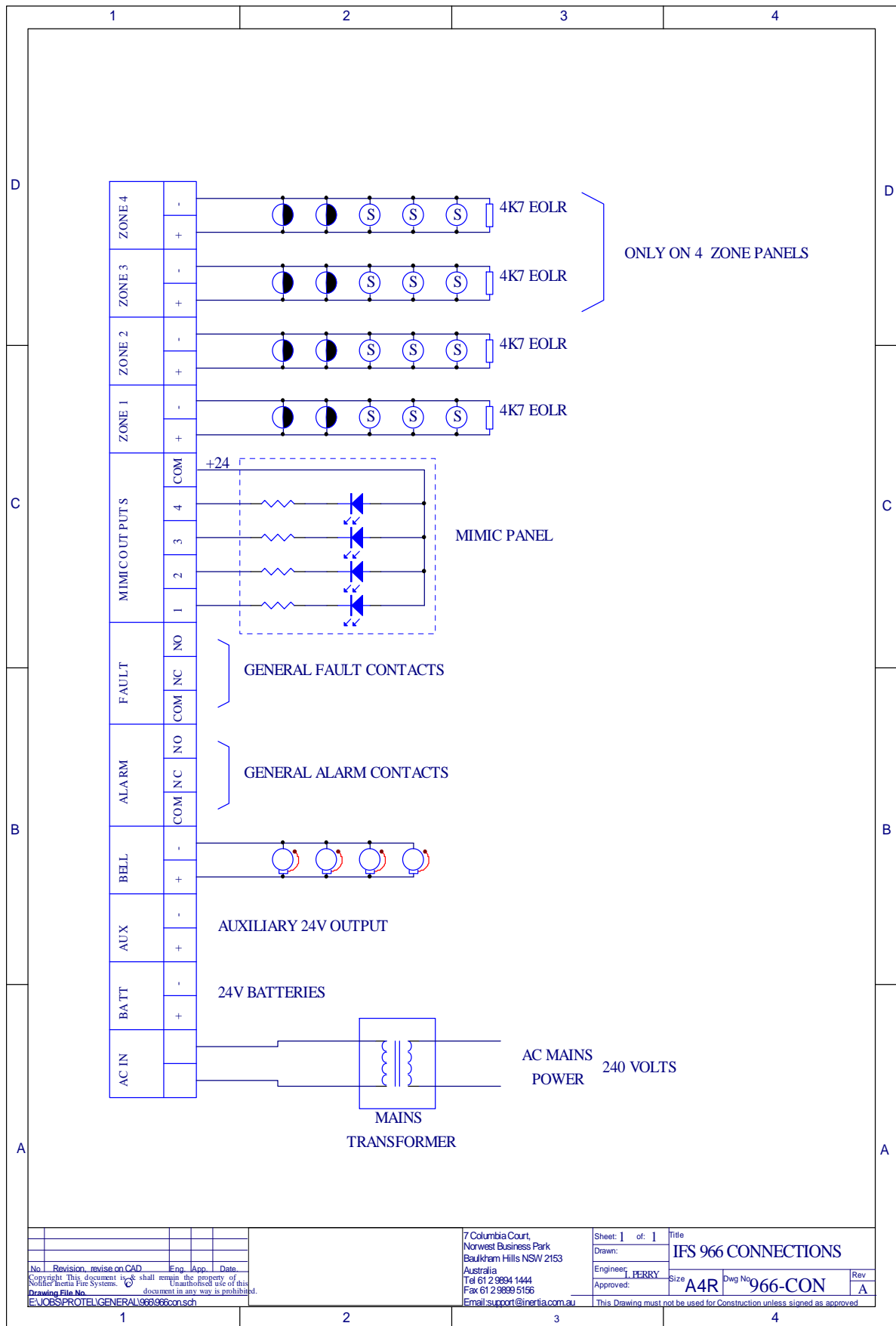
4 Zone Control Fascia



2 Zone Control Fascia



**Connection Diagram:**



No.	Revision	revise on CAD	Eng. App.	Date	7 Columbia Court, Norwest Business Park Baulkham Hills NSW 2153 Australia Tel 61 2 9894 1444 Fax 61 2 9899 5156 Email: support@inertia.com.au	Sheet: 1 of 1 Drawn: Engineer: PERRY Approved:	Title IFS 966 CONNECTIONS Size A4R Dwg No: 966-CON Rev A
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