






FIRETRONICS Pty Ltd

MICRO 2001

16 ZONE FIRE INDICATOR PANEL

FLT	ALM	ISO	 FIRETRONICS			FLT	ALM	ISO
ZONE 1 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> MASTER ALARM	<input type="radio"/> ALARM BELL	<input type="radio"/> POWER ON ○	ZONE 9 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>
ZONE 2 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>				ZONE 10 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>
ZONE 3 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> LOW BAT	<input type="radio"/> CHGR FLT	ZONE 11 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
ZONE 4 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>			ZONE 12 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
ZONE 5 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	FOR EVACUATION PRESS EV 	<input type="button" value="RESET"/>	ZONE 13 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
ZONE 6 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>			ZONE 14 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
ZONE 7 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	EV ISOLATE RESET	NORMAL 	ZONE 15 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
ZONE 8 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>			ZONE 16 ○ ○ ○	<input type="checkbox"/>	<input type="checkbox"/>	
			FIRE TEST					
			<input type="button" value="FAULT TEST"/>					

Designed and manufactured in Australia by Firetronics Pty Ltd.
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AUSTRALIAN MADE

Introduction

Features of Version 1.1

Micro 2001 is a sixteen zone fire alarm controller designed to comply with Australian Standards. It provides sixteen fully supervised zone inputs.

Each zone is terminated in a 1K5 resistor with a series diode to provide open circuit and short circuit fault detection. In addition, the line voltage is regulated to provide a constant 13.5 VDC to the detectors.

Output are provided for the following:

- i) Master Alarm (Change-over 1A relay contacts)
- ii) Alarm Bell (Change-over 1A relay contacts)
- iii) Zone Fault (Change-over 1A relay contacts)
- iv) Charger Fault/Low Battery (Change-over 1A relay contacts)
- v) Reset (Change-over 1A relay contacts)
- vi) Sonalert (+12VDC switched via open collector transistor)
- vii) Battery Charger Output (+13.7VDC)

Description

The Micro 2001 panel contains a set of printed circuit boards (PCBs) which are interconnected via a 40- way ribbon cable. The I/O contains the zone input circuitry as well as the power supply and output devices.

The display PCB contains the micro-controller , associated circuitry and LEDs.

Power

The PCB set is powered by an external transformer, rated at 17 VAC ,1Amp.The AC input is protected by a voltage transient suppressor (GMOV) and fused via F1(2amps).

12VDC outputs are provided for powering auxiliary devices .These outputs are fused via F2 (2amps) but should be limited to no more than 0.5A.

A 5VDC output is provided for use of remote mimic panels and relay output boards. Current consumption should not exceed 0.5A on this output.

A battery charger output is provided for charging lead-acid batteries. This provides an output of 13.7 VDC which is current limited via lamp L1.One 12 volt 7AH battery should provide sufficient capacity to power the Micro 2001 for in excess of 24 hours(excluding power consumption of any connected auxiliary devices).

Monitoring circuitry is provided to check the battery voltage and charger output .As well a dynamic battery load test is performed once every hour or whenever the unit is reset. A "Power On" LED is illuminated whenever AC power is supplied.

Zone Inputs

Sixteen zone inputs are provided every two zones have a regulated 12 VDC(nominal)line voltage connection to power detectors. All zones are protected against transient voltage by a current limiting resistor and zener diode.

A zone is considered to be in alarm condition when the voltage at the zone input exceeds 4.4VDC. A fault condition will exist when the line voltage is between 3.4 VDC and 4.4VDC or falls below 2 VDC.

Outputs

Relay outputs are provided for Master Alarm, Alarm Bell, Zone Fault, Evacuation, Charger Fault/Low battery and reset. These outputs are rated at 1 amp @ 24VDC and are single -pole change -over contacts.

The reset relay is energised for 3 seconds whenever the reset pushbutton is activated.

Miscellaneous

An output for a sonalert is provided. This switches to +12VDC to activate the sonalert .

A three position keyswitch is provided which is connected to the display PCB. The two pole three position keyswitch is used to enable the Isolate and Reset functions (position 1) or the Fire Test function (position 3).If not required the keyswitch connection can be linked out to permanently enable these functions.

Operation

Please ensure the unit is connected according to the wiring diagram supplied. For any unused zone inputs, terminate with a 1K5 ohm resistor and series diode.

Each zone may be independently tested by pressing the Alarm test pushbutton. The Alarm Test pushbuttons are active if the keyswitch is in the Fire test position. If the keyswitch is not installed the shorting links should be in place.

The zone inputs will be continuously sampled for alarm or fault conditions. The sampling interval is set to 0.2 seconds. Ten consecutive samples at a voltage above 4.4 VDC will trigger an alarm.

Alarm; An alarm condition will cause the corresponding LED to flash and the sonalert to sound in addition the Master Alarm and Bell Alarm relays will activate.

Fault; A zone which exhibits 10 consecutive samples of less than 2 VDC or greater than 3.4 VDC (but less than 4.4) will be considered to be in fault. This will cause the corresponding Fault LED to illuminate and the sonalert to sound. In addition the zone Fault relay will activate.

Evacuation; Pressing the EV button will activate the Evacuation Alarm. This will cause all 16 zones to alarm and also place positive voltage on the interlink line off all zones, thereby activating the sounder on all detectors. It will also cause the Evacuation relay to energise. Note that to enable the Evacuation Alarm the keyswitch should be in the Fire Test position.

Fault Test; This function is not operational at this stage.

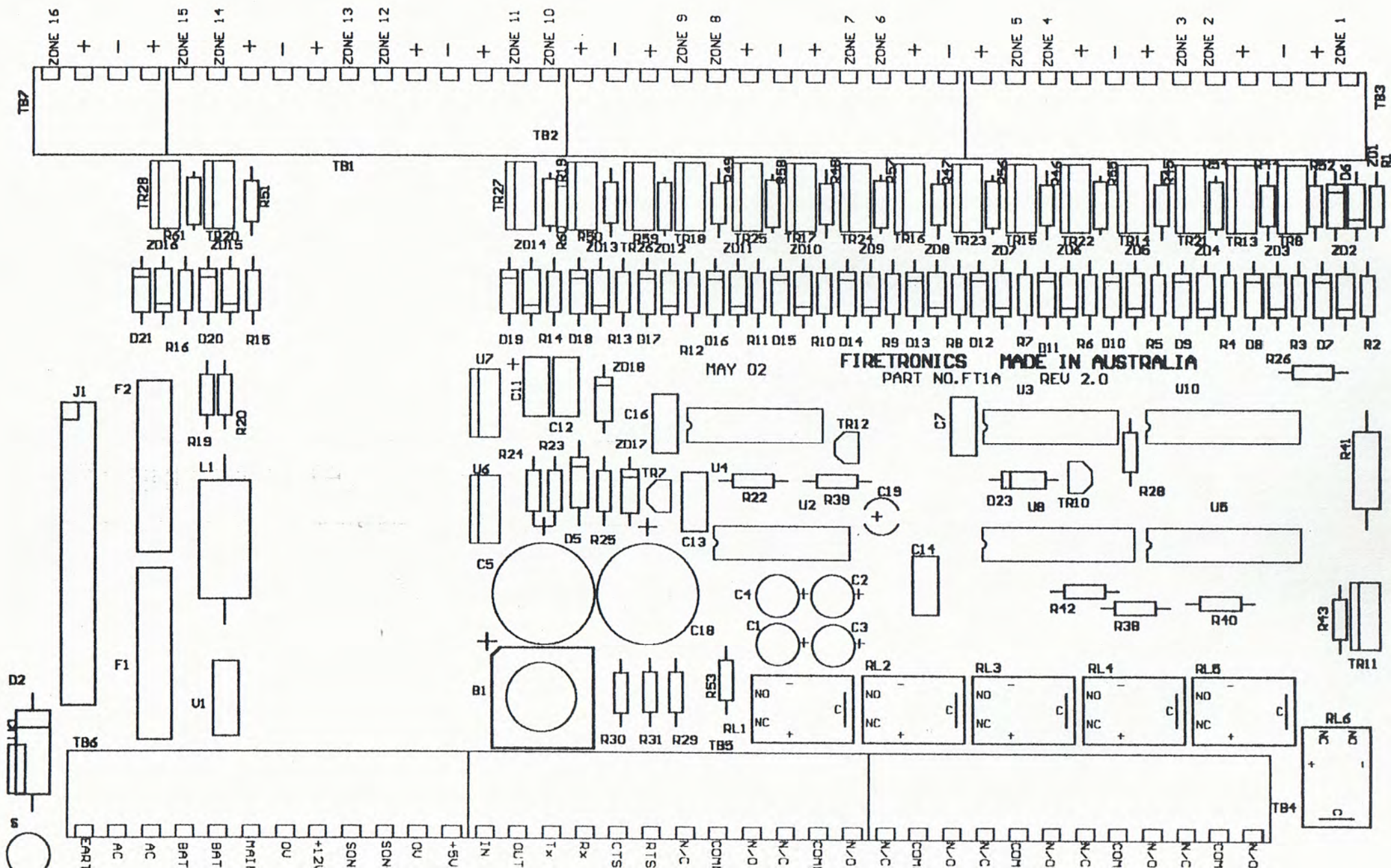
Reset; Pressing the reset pushbutton with the keyswitch in the Isolate /Reset position can reset Alarm or Fault conditions. This will clear the condition and activate the reset relay for three seconds. If the condition which originally caused the alarm or fault to occur still exists after the reset period then the alarm or fault will be re-activated.

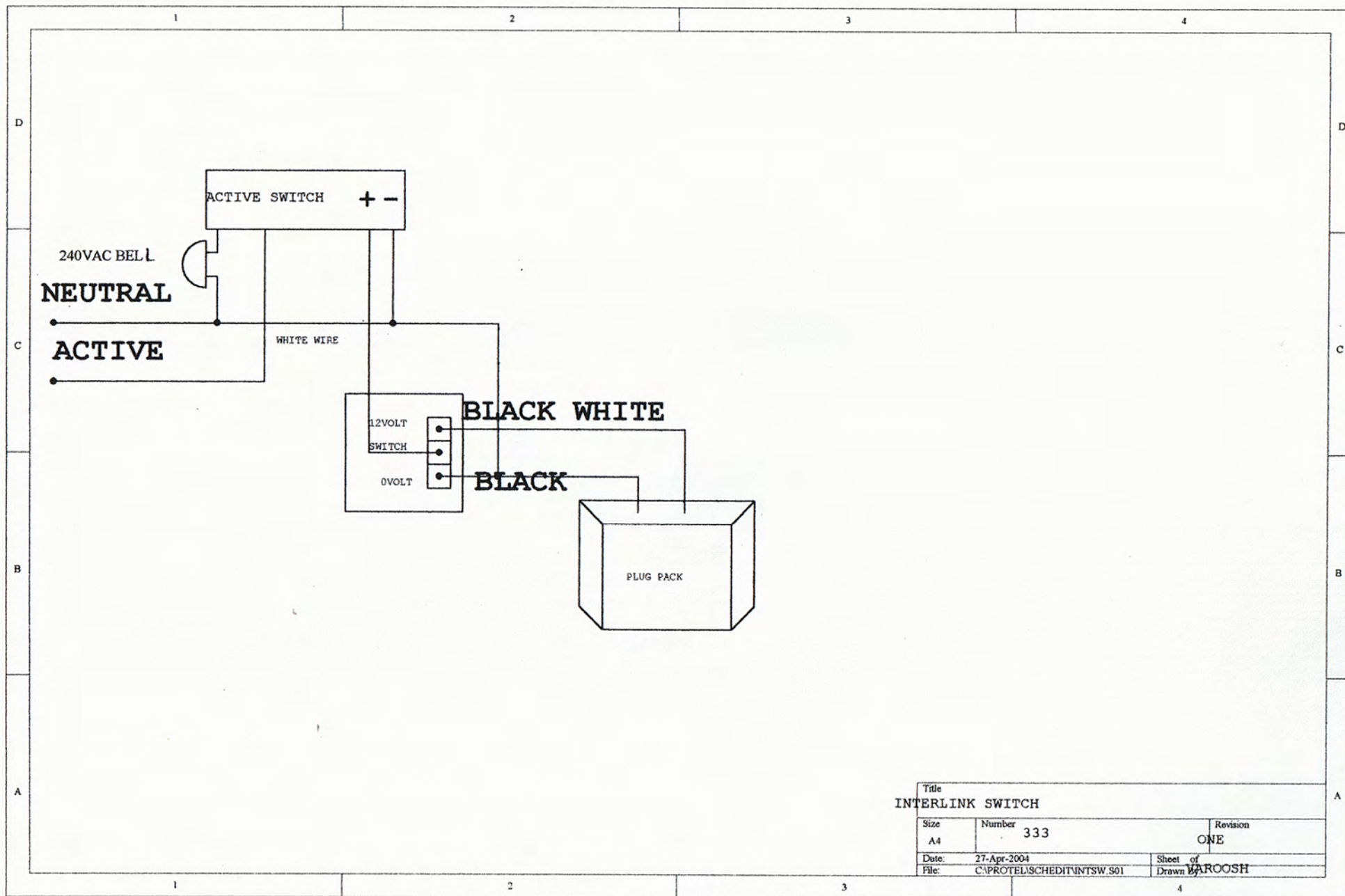
Isolate; A zone may be isolated by pressing the isolate pushbutton corresponding to that zone. **Note;** The Isolate and Reset buttons will only be active if the keyswitch is in the correct position or shorting links are installed in place of the keyswitch.

Acknowledge; The sonalert may be silenced by pressing the Reset button with the keyswitch in the Normal position. If an alarm condition has been signalled on any zone the alarm LED will go to a steady state (eg stop flashing).

Battery Low; The battery is monitored at all times for low voltage. Low voltage is triggered when the voltage falls below 10.5 VDC. Every hour a dynamic battery load test is carried out by lowering the charger voltage to 9.3 VDC. The battery is then allowed to power the system for 30 seconds.

Charger Fault; The battery charger is continuously monitored for low voltage condition. A charger low condition is triggered for a voltage lower than 11 volts. Both a battery low and charger fault condition will cause the charger Fault/Battery Low relay to energise. As well as the corresponding LED to illuminate. The sonalert will also sound.





Title			
INTERLINK SWITCH			
Size	Number	Revision	
A4	333	ONE	
Date:	27-Apr-2004	Sheet of	
File:	C:\PROTEL\SCHEM\INTSW S01	Drawn by	VAROOSH